County Borough of Wolverhampton.

ANNUAL REPORT

UPON THE

HEALTH OF WOLVERHAMPTON

FOR THE YEAR 1894.

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County Borough of Wolverhampton.

REPORT

UPON THE

HEALTH OF WOLVERHAMPTON,

FOR THE YEAR 1894,

BY

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MEDICAL OFFICER'S REPORT,

1894.

PREVALENCE AND PREVENTON OF NFECTIOUS DISEASE.

Table 2 gives the weekly numbers of cases of certain diseases certified by Medical Men under the Infectious Disease Notification Act. The crosses represent the degree to which the diseases heading those columns prevailed, these are only rough approximations. Any certificate detected as erroneous before the close of the week is not entered.

Table 1 gives the total number of cases about which enquiries were made and which were recorded; no erroneous cases are entered in this table. The Measles cases are not reported by Medical Men, but are a fairly correct approximation, except as regards cases amongst the better off classes. They are cases reported from the schools, by the School Board Officers, or found by our own Inspectors. They are all inquired into, and verified as far as possible by our Inspectors. The returns under the headings Diphtheria and Typhoid Fever are both only approximations to the actual prevalence of these diseases, undoubtedly many mild cases of both are never seen by any doctor nor suspected of being what they are.

Small-pox.—We were apparently free from Small-Pox during December 1893, and for the First Quarter of the present year. But

a serious epidemic began at Willenhall toward the end of March, and rapidly assumed grave proportions. Our first case was reported on April 21st; the particulars of all our cases are briefly given in the subsequent summaries of East and West cases, which are abstracted from our Records.

Our accommodation at the Borough Hospital at this time consisted of the large new brick Pavilion B; the smaller old brick Pavilion A; 2 wards in the wooden annex at the west end of Pavilion A, and a tent (Marquee). Pavilions A and B were both occupied by Scarlet Fever patients. On April 17th, I reluctantly advised that, in case of any number of Small-Pox cases occurring, we should erect the Marquee near Pavilion B and treat the Scarlet Fever cases in these; using Pavilion A for Small-Pox. At the same time I repeated my assertions that a third Pavilion was needed. Immediately after this, there was such an increase in Scarlet Fever, that on April 24th, I advised that we should be prepared to erect an Iron Hospital at once, if the need appeared imminent. At that time we had our first case of Small-Pox in the ward of the wooden annex furthest from Pavilion A. Next week six cases occurred, and I had to use the second ward in the annex, that next to Pavilion A. I then, by using the Marquee, was enabled to close the ward of Pavilion A nearest the annex, so as to increase the distance between the different diseases. This however was a dangerous state of affairs, and I advised the immediate erection of an Iron Hospital as far as possible from our pavilions; the Sanitary Committee took this in hand at once; the erection was a good deal delayed by bad weather, but we had the Iron Hospital open and in use on May 25th. Before this, however, we had proof of the necessity of the steps taken, in the fact that by May 22nd, two of our Scarlet Fever patients took Small-Pox; one had been three weeks in the Hospital, the other had gone out a few days when the disease shewed itself, both cases were fortunately of the very mildest type; a second case occurred at the home of the last mentioned ten days later, also very mild; these cases were all vaccinated children; they were all at once removed to the Small-Pox wards. We had no other case occur in the Hospital.

In every instance in which a case was reported, vaccination or re-vaccination was urged on all who had any connection with the case ; and every facility was given for having it done. As a rule we were fairly successful, though often not so promptly as could be desired. Nearly all the cases were removed to the Borough Hospital, the only exceptions being two which were well isolated at home, and were dubious cases, and a few cases that occurred in the workhouse. We have every reason to be well satisfied with the limitation of our year's cases to 67 ; there would have been still less were it not that several instances through oversight cases were unrecognised and in consequence removal and re-vaccination were not effected until several other cases were infected.

Summary of Small-Pox cases in the East Sub-District :—

SECOND QUARTER.

Date when reported.	No.	Age and Sex.	Vaccination Cicatrices, Number and Size.	Nature of Case — No. of days in Hospital.	Remarks.
April 26	1	37. M	1, foveated, size doubtful.	Fatal ; confluent case. 4 days. .	Infected from case 2, over a year an invalid, for over 11 weeks attending General Hospital with Phthisis. Borough Hospital, April 26th.
,, 27	2	9. M	4, foveated, 6d. each.	Very mild. 28 days. Delayed by a few scabs in soles ..	Son of above, ill 3 weeks ago, not recognised as Small-Pox, going about. Had been in the habit of going with Cattle Drovers to Willenhall. Borough Hospital. April 28th.
,, 27	3	5. M	Un-vaccinated	Very severe confluent case. 56 days in hospital	Another son of case 1, infected from case 2. Borough Hospital, April 28th.
,, 27	4	16. F	4, foveated, 1s. each.	Very mild. 35 days	Step-daughter of case 1, infected from case 2. Borough Hospital, April 28th.
,, 29	5	20. F	4, foveated, 6d. each.	Very mild. 41 days in hospital	Lodges with case 1, infected from case 2. Borough Hospital, April 29th.

Summary of Small-Pox cases in the East Sub-District :—*Continued*—

SECOND QUARTER—*Continued*—

Date when Reported	No.	Age and Sex.	Vaccination Cicatrices. Number and Size.	Nature of Case. —— No. of days in Hospital.	Remarks.
April 30	6	21. M	3, foveated, 1s. each.	Very mild. 25 days.	Husband of case 5, infected from case 2. Borough Hospital, April 30th.
May 4	7	42. M	Un-vaccinated	Fatal; confluent case. Very severe suppuration. 8 days.	Grocer's carter, delivers goods regularly in Willenhall. Borough Hospital, May 4th. 3 others in house.
,, 7	8	25. F	4, foveated, not well defined, about 6d. each.	Rather severe, semi-confluent on face. 47 days	Had been visiting her brother who had Small-Pox, at Willenhall. Borough Hospital, May 7th. One other in house.
,, 22	9	11. F	4, foveated, nearly 6d. each.	Very mild. 41 days in S.P. ward.	In Borough Hospital with Scarlet Fever. (Iron Pavilion not yet in use)
June 8	10	24. F	2, foveated, 1, round, 1 crescentic, both together about size of 1s. and 6d.	Fatal; confluent on face; severe throat and suppuration. 9 days.	Had been visiting her father at Willenhall. where a brother had died of Small-Pox; another brother was also taken ill with it. Borough Hospital, June 8th. 2 others in house.
,, 9	11	25. F	4, foveated, about6d.each	Mild. 53 days.	Had been visiting two sisters ill with Small-Pox at Willenhall. Borough Hospital, June 9th. From Union.
,, 23	12	57. F	4, foveated, 2 on each arm, (all infancy).	Mild. 39 days.	Infection untraced. Borough Hospital, June 23rd. 6 others in house.

Summary of Small-Pox cases in the East Sub-District :—*Continued.*

THIRD QUARTER.

Date when Reported	No.	Age and Sex.	Vaccination Cicatrices. Number and Size.	Nature of case. —— No. of days in Hospital.	Remarks.
July 16	1	21. F	4, foveated, 1s. each.	Very mild. 40 days.	Had been visiting sisters at Willenhall. Borough Hospital, July 16th. 4 others in house, one took Small-Pox, see case 5.
,, 16	2	26. M	3, foveated. 6d. each.	Very severe ; semi-confluent. Delayed bybed-sore. 85 days.	Untraced ; re-vaccination was attempted 9 years ago, but nothing whatever came of it (statement volunteered by patient). 4 others in house ; only case. Borough Hospital, July 16th.
,, 19	3	22. M	2, foveated, ½ of 3d. each.	Very mild. 37 days.	Untraced. Borough Hospital, July 19th. 4 others in house ; 1 took Small-Pox. (case 8.)
,, 24	4	31. F	4,non-foveated rather indistinct.	Very mild. 22 days.	Came from Willenhall thirteen days ago (her husband had been re-vaccinated there). 2 others, none took. Borough Hospital, July 24th.
,, 30	5	12. F	2, foveated 1s. each.	Very mild. 26 days.	Sister of case 3. Borough Hospital, July 30th.
Aug. 1	6	32. F	2,non-foveated one 6d , other undefined.	Rather ill ; rash discrete and mild ; troublesome boils. 52 days.	Untraced, probably from case 7. Borough Hospital, August 1st.
,, 1	7	12. M	1,non-foveated 6d.	Very mild. 24 days.	Son of case 6. Ailing some time, untraced. Borough Hospital, August 1st.
,, 6	8	24. M	4, foveated 3d. each.	Very mild. 23 days.	Brother of case 3, had declined re-vaccination. Borough Hospital, August 6th.

Summary of Small-Pox cases in the East Sub-District:—*Continued.*

THIRD QUARTER—*Continued.*

Date when Reported	No.	Age and Sex.	Vaccination Cicatrices. Number and Size.	Nature of case. — No. of days in Hospital.	Remarks.
Aug. 7	9	18. F	1 non-foveated 6d.	Very mild. 22 days.	Sister of case 7. Was re-vaccinated on August 1st. Small-Pox eruption began on August 2nd; the re-vaccination failed to take. Borough Hospital, August 7th,
,, 21	10	27. M	3?	Mild?	10 and 11, both cases in Workhouse, detailed particulars not known. Case 11 was out and slept at Willenhall a fortnight before he had rash.
,, 23	11	19. M	4?	Mild?	
,, 24	12	32. M	1, foveated very irregular shape, about 3d. size.	Mild; some suppuration of pocks. 36 days.	Hawks in Willenhall. Asserts he was never vaccinated, but the cicatrix is marked. Borough Hosdital, August 24th. 8 others in house, none took.
,, 25	13	21. M	4, foveated, 1s. each.	Very mild. 21 days.	Doubtful source. Borough Hospital, August 25th. 4 others, none took,
,, 29	14	—	——	——	Proved not to be Small-Pox, re-vaccinated in Borough Hospital, and took well.
,, 29	15	39. M	1, slightly foviated, ill defined about 1s. size.	Severe. Very tedious boils. 77 days.	Doubtful source. Borough Hospital, August 29th. 7 others in house, none took Small-Pox.
Sept. 10	16	30. M	2 foveated, in flexure of elbow, one 3d., other half that.	Fatal; semi-confluent; very severe throat. 10 days.	Untraced. Borough Hospital, September 10th. 6 others in house.

Summary of Small-Pox cases in the East Sub-District :—*Continued.*

THIRD QUARTER—*Continued*—

Date when reported.	No	Age and Sex.	Vaccination Cicatrices. Number and Size.	Natureof Case. — No of days in Hospital	Remarks.
Sept .28	17	25. F	Un-vaccinated	Very severe, confluent. 43 days	Had been visiting at case 16. Borough Hospital, September 28th. 6 others in house.
			FOURTH QUARTER.		
Oct. 1	1	25. F	3, foveated, 6d. each, and one doubtful	Very mild. 8 days	Taken 3 weeks ago ; not recognised until case 2 occurred. Probably infected through case 4. Borough Hospital, Oct. 1st.
,, 1	2	18. F	4. foveated, 3d. each	Very mild. 26 days	Sister of case 1. Borough Hospital, October 1st,
,, 13	3	12. M	2, foveated, nearly 6d. each	Very mild. 21 days	Brother of 1 and 2. Borough Hospital, Oct. 13th.
,, 15	4	22. M	4, 3 foveated, 1 not ; nearly 6d. each	Very mild, delayed by boils. 39 days ..	Travels in Willenhall every Saturday, brother of 1, 2, 3, and 5. Borough Hospital October 15th.
,, 15	5	20. M	4, foveated, over 6d. each	Very mild. 30 days	Brother of above. Borough Hospital, October 15th. In these cases re-vaccination had been neglected.
Nov. 2	6	26. F	4, foveated, irregular shape about $\frac{1}{2}$ of 3d. each	Very mild. 22 days	Untraced Borough Hospital, November 2nd. 8 others in house.
,, 26	7	$2\frac{1}{2}$. F	Un-vaccinated	Severe. Moderate suppuration delayed by sore head. 47 days	Cases 7, 10, 11, are children of 12 ; cases 8 and 9 are husband and wife, relatives of above ; staying with them. Case 8 was taken over a fortnight ago, but so mild it was overlooked until case 7 occurred. 8 was untraced but he was going about a good deal in search of work.
,, 26	8	48. M	2, foveated, above 3d. each	Very mild. 18 days	

Summary of Small-Pox cases in the East Sub-District:—*Continued.*

FOURTH QUARTER—*Continued*—

Date when reported.	No.	Age and Sex.	Vaccination Cicatrices. Number and Size.	Nature of Case. —— No. of Days in Hospital.	Remarks.
Nov. 26	9	52. F	3, obscure, size?	Very mild. 39 days.	
„ 26	10	10½. F	Said to have been vaccinated, no marks.	Mild. 25 days	See case 8, &c.
„ 26	11	9. F	3, foveated, 1 nearly 6d. 2 about ⅓ of 3d. each.	Very mild. 25 days. .. .	See case 8. &c.
„ 28	12	32. M	2, 1 foveated. about ½ of 3d, 1 obscure.	Mild. 38 days	See case 8, &c. All these cases (7—12) were removed to Borough Hospital, thus:— 7, 8—November 26th, 9, 10, 11— „ 27th, 12— „ 28th.
„ 30	13	21. F	2, foveated and contracted; 1s, each.	Very mild. A few scattered pocks which suppurated slightly. 48 days ..	Untraced; ill a fortnight ago, no doctor until 30th. Borough Hospital, Nov. 30th. 3 others in house.
Dec. 3	14	23. F	3, slightly foveated, ill defined, about 3d. each.	Very mild. 36 days	States that about a fortnight ago she was for some time speaking at their entry, to a tramp who had an eruption on his face, Borough Hospital, Dec. 3rd. 4 others in house.
„ 10	15	24. M	2, 1 foveated, rather above 3d. 1 obscure	Very mild. 38 days	Untraced. Borough Hospital, December 10th. 9 others in house,
„ 13	16	17. M	2, foveated about 6d. each.	Very mild. No illness. 23 days.	Possibly infected from case 12. Borough Hospital, December 13th. 9 others in house.

Summary of Small-Pox cases in the East Sub-District :—*Continued*—

FOURTH QUARTER—*Continued*—

Date when reported.	No.	Age and Sex.	Vaccination Cicatrices. Number and Size.	Nature of Case. —— No. of Days in Hospital.	Remarks.
Dec. 17	17	19. F.	3 foveated, 3d each.	Very mild. No real illness. 19 days.	Sister of case 14, not resident there, but visited her before her removal. Borough Hospital, Dec. 17th. 5 others in house.

Summary of Small-Pox Cases in the West Sub-District —

SECOND QUARTER—

April 21	1	38 M.	1 foveated, florin.	Very mild, no real illess. 21 days	Came up to General Hospital amongst out-patients with rash out, at work, (navvy). Infection untraced. Borough Hospital, April 21st. 5 others in house.
May 2	2	17. F	4 foveated, 1s each.	Very mild, a few scattered pocks. hardly at all ill. 41 days.	Teaching in a school at Willenhall, passes through infected area twice daily. Borough Hospital May 2nd. 13 others in house.
,, 18	3	$3\frac{1}{2}$. F	Un-vaccinated	Severe, discrete numerous pocks. suppuration severe. 78 days See remarks.	Her family came from Willenhall to live here on May 5th; she and her sister when there attended the school case 2 was teaching in. This child took Scarlet Fever from East case 9, hence her long detention in Hospital. Borough Hospital, May 18th. 4 others in house.
,, 20	4	13. F.	Infancy, particulars not known.	Very mild.	Infection not traced; been through the Fair; roomy house, treated at home; some doubt of case.

Summary of Small-Pox cases in the West Sub-District :—*Continued*—

SECOND QUARTER—*Continued* –

Date when reported.	No.	Age and Sex.	Vaccination Cicatrices. Number and Size.	Nature of Case. —— No. of Days in Hospital.	Remarks.
May 22	5	9. M	2 foveated, nearly 6d. each.	Very mild. 32 days	Came home from Scarlet Fever wards at Borough Hospital on May 11th. was twice detected at a forbidden window which overlooked Small-Pox cases (Iron building not yet erected). Borough Hospital, May 22nd.
,, 29	6	40. M	3 non-foveated very small marks.	Rather severe. rash confluent, but aborted ; illness not much ; delayed by abscess. 58 days	Works at Bloxwich and Essington, coming home at night. Borough Hospital, May 29th. 4 others in house.
June 1	7	14. F	Infancy, particulars not known. Re-vaccinated on May 20, when already infected.	Very mild ..	Sister of case 4. Some doubt. At home.
,, 4	8	5. F	2 foveated. 3d. each.	Very mild, no illness. 28 days	Sister of case 5. Re-vaccinated on May 22nd. but failed to take. I was not certain of this case being Small-Pox. Borough Hospital, June 4th.
,, 5	9	13. M	2 foveated, one 1s. other 3d. size.	Very mild, delayed by small abscess. 39 days	Been in Eye Infirmary since May 7th, taken ill June 2nd. Borough Hospital, June 5th.
,, 6	10	—	——	——	Proved not to be Small-Pox, re-vaccinated in Borough Hospital and took well.
,, 12	11	37. F	3 non-foveated 3d. each.	Mild. 4 months pregnant, aborted. 50 days	Infection from case 6. Borough Hospital, June 12th. 4 others in house.

Summary of Small-Pox cases in the West Sub-District:—*Continued*—

SECOND QUARTER—*Continued*—

Date when Reported	No.	Age and Sex.	Vaccination Cicatrices. Number and Size.	Nature of Case. — No. of Days in Hospital.	Remarks.
June 27	12	35. M	Infancy. Particulars not known.	Mild. In Workhouse.	Infection not traced. In Workhouse; went in ailing from West Sub-District.

THIRD QUARTER.

July 2	1	29. M	4 foveated, about 3d. each	Very mild. 43 days.	May have got infection attending his Club at Wednesfield. 4 others in house. Borough Hospital, July 2nd.
,, 16	2	8. F	Un-vaccinated	Severe confluent, rather marked; good recovery. 40 days.	Infection untraced. Borough Hospital July 16th. 2 others in house.
Aug. 6	3	22. F	3 foveated, 1s. each.	Very mild. A few scattered pocks. 23 days.	Infected from No. 4 case, East. Third Quarter, before her removal. Borough Hospital, August 6th. 7 others in house.
,, 21	4	4. F	Un-vaccinated	Fatal confluent case. Died August 30. 9 days.	Infection untraced. Borough Hospital, August 21st. 6 others in house.
,, 24	5	34. M	1 foveated, 3d. size.	Very mild. 29 days.	Untraced, but in a public business in contact with many strangers. Borough Hospital, August 24th. 11 others in house.
,, 28	6	19. M	3 faint marks, foveation dubious, about 3d. each.	Mild, but some suppuration on face, and some boils. 39 days.	Untraced. Borough Hospital, August 28th. 10 others in house.

Summary of Small-Pox cases in the West Sub-District:—*Continued*—

THIRD QUARTER—*Continued*—

Date when Reported	No.	Age and Sex.	Vaccination Cicatrices. Number and Size.	Nature of Case. —— No. of Days in Hospital.	Remarks.
Sept. 17	7	21. F	4 foveated, 1s.6d. each.	Very mild. A few imperfect pocks. 29 days.	Untraced. Borough Hospital, September 17th. 3 others in house, one took Small-Pox, see 1, next Quarter.
„ 27	8	37. M	2 foveated, about ⅓ of 3d. each.	Very mild. 30 days.	Worked in Willenhall, and master's daughter had Small-Pox. Borough Hospital, September 27th 6 others in house.

FOURTH QUARTER.

Oct. 3	1	42. M	2 foveated, about ⅓ of 3d. each, and 1 doubtful.	Very severe illness; suppuration moderate. 51 days.	Father of No. 7 last Quarter; lived with her then, moved at time of her illness, and thus missed re-vaccination. Has very serious heart disease. Borough Hospital, October 3rd.
Nov. 3	2	10. F	Un-vaccinated	Very severe semi-confluent, good recovery; marked. 98 days.	Untraced. Borough Hospital, November 3rd. 3 others in house.
„ 8	3	26. M	4 foveated, 3d. each.	Very mild. 23 days.	Untraced; much in contact with public. Borough Hospital, November 8th. 5 others in house.

Our total number of Small-Pox cases is far too small to justify any conclusions in reference to vaccination being drawn from them; and in commenting on the facts which I enumerate later I do not mean to draw conclusions, but merely to show what the facts indicate. In every particular they support the conclusions arrived at from all

recent statistics, and confirmed by every additional evidence, that recent successful vaccination is a practically complete protection against Small-Pox, and that old vaccination is a partial protection from infection, and has a powerful effect in mitigating the severity of the disease.

Omitting four cases that occured in Public Institutions we found in the houses attacked by Small-Pox in the East Sub-district 153 persons ; 7 of these had formerly had Small-Pox, 134 were vaccinated, 12 were un-vaccinated. The proportion and severity of the cases of Small-Pox that occurred amongs these were as follows :—

Table A.

	Persons.	Cases of S.P.	Deaths.	Very Severe.	Severe.	Mild.	Very Mild
Vaccinated ...	134	37	3	1	3	4	26
Un-vaccinated	12	4	1	2	1	...	...

The partial protection afforded by old vaccination is of very little use against illness where the exposure to infection is extreme or prolonged. Such prolonged exposure occurred in five houses in the East, through cases of Small-Pox being undetected. In these houses there were 37 vaccinated and 4 un-vaccinated persons. The incidence of the disease on them was thus :—

Table B.

	Persons.	Cases of S.P.	Deaths.	Very Severe.	Severe.	Mild.	Very Mild
Vaccinated ...	37	19	1	...	1	2	15
Un-vaccinated	4	2	...	1	1	...	...

The mitigation of the disease by the old vacination is however very evident (the death was the case of advanced Phthisis already mentioned).

The degree of protection afforded by primary vaccination against casual infection is best seen by deducting table B. from table A. thus :—

Table C.

	Persons.	Cases of S.P.	Deaths.	Very Severe.	Severe.	Mild.	Very Mild
Vaccinated ...	97	18	2	1	2	2	11
Un-vaccinated	8	2	1	1	...	...	...

Of the 134 vaccinated persons 6 had been formerly re-vaccinated, none of these took Small-Pox.

The protective power of primary vaccination during childhood is seen by taking the children of ten years and under in the infected houses; their numbers, vaccination, and disease incidence were thus:

TABLE D.

	Persons 10 years and under	Cases of S.P.	Deaths.	Very severe.	Severe.	Mild.	Very Mild
Vaccinated ...	27	2	...	...	...	...	2
Un-vaccinated	10	2	...	1	1	...	...

The vaccinated cases were 9 years old each. One of the un-vaccinated cases was so severe that his recovery was for some time unhoped for, and both cases were scarred.

In the West Sub-district all cases were recognised early, and so there was no prolonged exposure to infection, hence, the figures more resemble table C above. There were 120 persons in the houses attacked, (omitting 1 case in a Public Institution). Two of these had already had Small-Pox, 107 were vaccinated, 9 were un-vaccinated. The Disease incidence was thus;—

TABLE E.

	Persons.	Cases of S.P.	Deaths.	Very severe	Severe.	Mild.	Very Mild
Vaccinated ...	107	17	...	1	1	2	13
Un-vaccinated	9	4	1	1	2	...	...

There were amongst the above 28 children of 10 years and under, attacked thus:—

TABLE F.

	Persons 10 years and under	Cases of S.P.	Deaths.	Very Severe.	Severe.	Mild.	Very Mild
Vaccinated ...	20	2	...	...	...	...	2
Un-vaccinated	8	4	1	1	2	...	...

The vaccinated cases were aged 9 and 5 years, there was some uncertainty about the diagnoses; they were brother and sister.

Amongst the 107 West vaccinated 4 had been already re-vaccinated; none of these were attacked.

The total cases for the Borough in the houses attacked, tabulated as above, are :-

TABLE G.

	Persons.	Cases of S.P.	Deaths.	Very Severe.	Severe.	Mild.	Very Mild
Vaccinated ...	241	54	3	2	4	6	39
Un-vaccinated	21	8	2	3	3	...	...
Re-vaccinated	10	...	...	...	...	...	...

TABLE H.

Children 10 years old, and under, in houses attacked.

	Persons 10 years and under	Cases of S.P.	Deaths	Very Severe.	Severe.	Mild.	Very Mild
Vaccinated ...	47	4	...	...	...	...	4
Un-vaccinated	18	6	1	2	3	...	...

The ages of the four vaccinated cases are 9, 9, 9, and 5 years.

The ages of the six unvaccinated cases are 10, 8. 5, 4, $3\frac{1}{2}$ and $2\frac{1}{2}$ years.

The four years old was a fatal case.

Other things being equal the exposure to infection would be greater in adults going about than in children, more especially than in very young children, who would scarcely leave their homes. This is illustrated in the 21 un-vaccinated persons above; 3 of these were adults (youngest 25 years) two of whom took Small-Pox; of the 18 children, 10 years and under, only 6 took Small-Pox (2 of these from primary cases in the house) In consequence of the extra risk incurred by adults, the contrast afforded by the comparison of persons over 10 years of age is greater than the weakened protective influence of old vaccination would have led one to expect.

TABLE I.

	Persons over 10 years.	Cases of S.P.	Deaths.	Very Severe.	Severe.	Mild.	Very Mild
Vaccinated ...	194	50	3	2	4	6	35
Un-vaccinated	3	2	1	1	...	...	...

A person susceptible to infection is a special danger to the community when he is going about much, and thus liable to get infected, and become a centre to infect others, but he is also an extra

danger even when at home, as he may take slight infection brought there on clothing or otherwise. The danger which un-vaccinated persons are is illustrated by our experience. Small-Pox appeared in 42 houses, in six instances the primary case was an un-vaccinated person; one to seven of the total. Now the proportion of un-vaccinated persons to vaccinated is about one to eleven (21-241); but the proportion of probable catchers of infection in the two classes is far less than this; the adults being 3 to 194, and even of persons over 6 years the proportion is 6 to 217. Not only is the proportion of children so high in the unvaccinated but the children are extremely young; thus of the 47 vaccinated children 23 are over 6 years and none under 1 year, of the 18 un-vacccinated only 3 are over 6 years and 6 are under 1 year. Of the 36 instances in which the primary case in a house was vaccinated the youngest introducers were two children of 9 years, both specially infected.

In the six instances in which the primary cases were un-vaccinated four were children, ages 10, 8, 4, and $3\frac{1}{2}$ years. In only the last case was the infection traced.

The above method of comparing the persons in the houses attacked and whose vaccination condition is actually made out is much more likely to approximate accuracy than that of guessing at the vaccination of the whole Borough and then estimating the relative incidence on the two classes (vaccinated and nn-vaccinated). But the relative weakness of the un-vaccinated is always covered by the fact that they are protected by their vaccinated neighbours, each un-vaccinated person, or small group of persons, is surrounded by a cordon of the vaccinated, and thus in a measure protected. Were all the vaccinated in one community and all the un-vaccinated in another the contrast would indeed be awful, especially if the latter tried to deal with their cases with un-vaccinated officials and isolate them in a Hospital with an un-vaccinated staff.

Of our Hospital staff nine had at various times prolonged exposure to the infection (as nurses, ward maids, or in disinfecting clothing); three of our office staff and myself were likewise so exposed

These had all been re-vaccinated. With the ten re-vaccinated in infected houses thus makes 23 re-vaccinated persons exposed to infection, none of whom took Small Pox.

The effects of vaccination in mitigating the severity of the disease are shown in most of the above tables; in table **G** (the most inclusive) the proportion of deaths to persons in the un-vaccinated is nearly eight times that in the vaccinated, the proportion of severe cases (including deaths) to persons in the former is thirteen times that in the latter. But no figures can give any idea of this mitigating influence to compare with that gained by actual observation of the cases; and as I am sure the feeling against the need for vaccination is largely due to utter ignorance of what unmitigated Small-Pox really is, I think it well to give some idea of what we have experienced. The most striking feature of the disease is the eruption, and it is only the difference as regards this that I wish to sketch. The eruption begins as a hard pimple, in a few days this becomes a watery pock, a few days later its contents become cloudy; it then either dries up and falls off as a small thin scale, leaving no scar, but only a temporary discoloration; or it suppurates, the contents become matter, the skin around is inflamed and swollen, the pock is either burst, leaving a deep sore, which slowly heals with the formation of a scab, or the scab forms without the pock bursting, in each case there is destruction of the skin, and when the scab ultimately falls off there is a permanent pit or scar. The eruption varies not only as regards the character of the pocks, but also as regards their number; some cases have only a very few pocks (perhaps not a dozen on the whole body) others are literally covered all over. Now all the cases which I have called "very mild" had no illness beyond some trifling initial symptoms for a day or two; they had only a few scattered pocks (at the most a few dozen on the whole body) and these were of the trifling character described first above. The cases called 'mild' began with a little more severity, the initial symptoms were more marked, the pocks were fairly numerous, and for a few days the case seemed about to be severe; then all the symptoms abated almost suddenly, the pocks dried up without inflammation, assuming the mildest type, and

all illness was over. Such cases are often called abortive. I was much struck with this aborting of the pocks in nearly all the vaccinated cases; it only occurred in one of the un-vaccinated, and then not at all so completely, nor with the remission of the other symptoms as above. In a very severe case the rash is confluent on the face and over much of the body and limbs, that is the pocks are so numerous that they run into each other. When the suppuration begins the general inflammation of the skin is so severe that the affected parts are terribly swollen; the features, and even the neck, are obliterated; the eyes cannot be seen, only made out as slits in the generally swollen surface, so also the mouth. The limbs are in a similar condition, in short the whole body is a shapeless swollen mass covered with pocks containing yellow matter, and smelling horribly. Many of the pocks burst, and discharge much matter, and darken, the others also darken; and the patient is then at the most horrible stage of the disease; being a swollen indistinguishable mass, covered with dark brown or black scab, here and there broken into discharging sores; the stench being peculiarly overpowering. After a varying number of days the inflammation gradually subsides, the form becomes again distinguishable, covered with scabs which come off in enormous quantities for some weeks, leaving the unfortunate patient scarred for life. Of this class were all five of the very severe cases (including deaths) amongst the un-vaccinated (five out of eight cases, out of twenty-one persons). Such also were the three fatal cases amongst the vaccinated, but the skin mischief was markedly not so severe, death being due more to the constitutional effects of the disease (one was a man in advanced consumption, another a woman very debilitated after confinement). The two 'very severe' vaccinated cases were types of lesser severity as regards eruption, but they were for some days in actual danger from the constitutional symptoms (one was a very weakly man with severe heart disease). Of the three 'severe' un-vaccinated; one was the partially abortive case already mentioned, the other two were cases with discrete rash, but in which each pock was of the suppurative severe type.

Another point of great public importance in which the vaccinated and un-vaccinated cases contrast is in the amount of infective material

given off. The infection of Small Pox is mostly contained in the eruption, first in the water or matter of the pocks, later in the scabs. It will be readily seen from what has been described above, how the cases differ in the amount of this material. In the great majority of the vaccinated there are only a few thin scales which are readily disinfected on the body, and in time easily picked off and destroyed. In the more severe cases, at first the sheets are saturated with discharge, and later enormous quantities of scab or dried matter comes off the patient, the discharge dries, and the scabs crumble, and thus readily pass into the air as highly infective dust. Every time the bed-clothes are turned down the scabs are found lying abundantly in the sheets; and this goes on for weeks. Even with the greatest care it is hardly possible to prevent a considerable amount of this getting about as floating dust; it is not at all surprising that Hospitals, where many such cases are treated, have proved to be centres of aerial infection for considerable distances around them. Now I am confident that I am well within the mark when I say that any two of our five severer un-vaccinated cases gave off more infective material than all the 54 vaccinated cases together.

One other hint is given pretty strongly by our little experience, that is, that in a community which has only the partial protection of priminary vaccination, Hospital isolation must be prompt and early to be of much use in preventing the spread of illness. This is illustrated by those five houses where exposure to infection was prolonged, and the results of which are given in Table B.

Measles.—The Quarterly cases of, and deaths from Measles since 1884 are as follows :—

	1884	1885.	1886.	1887.
Cases	272, 710, 143, 2;	4, 2, ... 17;	21, 9, 189, 959;	124, 17, 31, 22;
Deaths	11, 66, 20, 1;	1, .. , . , ...,	..., .. , 8, 103;	19, 4, 7, 1;
	1888	1889.	1890.	1891.
Cases	119, 149, 166, 435;	150, 228, 78, 141;	68, 45, 1·9, 230;	73, 4, 11, 275;
Deaths	9, 6, 5, 19;	10, 11, 11, 8;	3, 10, 5, 14;	5,..., ..., 20;
	1892.	1893.	1894.	
Cases	501, 415, 82, 33;	21, 18, 106, 248;	530, 294, 15, 4.	
Deaths	21, 16, 3, 1;	6, ..., 5, 10;	46, 27, ..., ...	

During the Second Quarter more cases than usual were probably unrecorded; in the East because of our being without an Inspector for that district for some time; in the West partly through the illness of an Inspector; and partly because it was largely prevalent amongst the better-off classes, amongst whom we hear but little of it. This would account for the rather higher proportion of deaths in that Quarter. Different epidemics are very different in their fatality, but even remembering this it is difficult to understand such variations in this respect as we see in the last Quarter of 1888, the first two Quarters of 1892, and the first two of the present year. The deaths are much the highest since 1886, but the cases were exceeded in 1892.

The high death rate is the more remarkable as the disease appeared to be of the type known as German Measles, or Rotheln; at least certainly all the cases that came under my personal observation were. This disease is usually supposed to be less fatal than ordinary Measles. The fatal result was frequently due to throat complications; and several of our deaths from Diphtheria occurred subsequently to Measles.

At the close of 1893 there was a considerable prevalence of Measles in the district about Dudley Road and Steelhouse Lane, it spread from there round the town in both directions; in the East through the Bilston Road and Horseley Fields, to Springfields. In the West through to the Tettenhall Road and Whitmore Reans, at the close of the First Quarter of 1894 these extensions met in the Stafford Road; the Dudley Road district being then clear. During April there was an increased prevalence in the Springfields and Willenhall Road areas, but then there was a rapid abatement; in the Whitmore Reans the prevalence (at no time so severe) continued through May and into June. At this time we seemed most remarkably free, and only heard of an occasional case; from September 5th to the close of the year we only heard of four cases.

School closure was not adopted in any instance, mainly because we heard of the cases as a rule too late to hope for much good resulting from this measure. Of course the attendance of all children from infected houses was prohibited as usual.

It is a fact worth noting by those who consider Measles a trivial disease that during the year we had 73 deaths out of 843 recorded cases, whereas from Scarlet Fever we had only 55 deaths out of 1096 recorded cases. No doubt some hundreds of Measles cases may have escaped recording, but even then the figures are startling.

Scarlet Fever.—We began recording our cases in 1884, but as we have only had notification since 1890, (inclusive) the returns before that year are probably less complete than those since. The Death records in my possession go back to 1870; the following are the deaths since that year, and the known cases since 1884 :—

	1870.	1871.	1872.	1873.	1874.	1875.	1876.
Deaths	54,	26,	69,	121,	34,	26,	58.
	1877.	1878.	1879.	1880.	1881.	1882.	1883.
Deaths	226,	40,	17,	39,	64,	27,	24.
	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Deaths	37,	46,	5,	16,	17,	6,	13.
Cases	212,	244,	47,	168,	194,	124,	500.

	1891.	1892.	1893.	1894.
Deaths	14,	3,	25,	55,
Cases	419,	242,	623,	1096.

The fatality varies in different periods, so that the deaths bear no ratio to the cases; as a rule with increased prevalence there is increased fatality, so that the higher death returns do not mean quite a proportionate increase in cases.

We have had a far heavier return of cases than any previous year. The deaths are the heaviest since 1881; though frequently exceeded before that. The record of cases prior to 1890 is too uncertain to depend on. All Epidemic diseases present enormous periodic variations both in their degree of prevalence and in their fatality even when un-modified by any preventive measures. In consequence of this it is very difficult to estimate the effect of such measures by noting results; unless such results extend over such long periods as to include all possible natural phases of the disease. This is far from being the case with regard to Hospital Isolation and Scarlet Fever. Many of us were partly imposed on by the extraordinary natural remission which took place after we commenced Hospital Isolation at the close of 1885, a remission for which our Isolation was certainly only very partially responsible. I have in former

reports dwelt very fully on the various circumstances which neutralize the good effect of Isolation; notably the fact that it leaves a much larger proportion of persons susceptible to attack through not having had the disease; and I have fore-shadowed such an experience and such difficulty as we have had this year; but I have as much confidence as ever in the utility of isolation. Not only do the deaths since 1870 (the population has increased, so that 4 deaths in 1870 are equivalent to 5 in 1894) show a very marked improvement, but a consideration of what actually is taking place must convince one who knows anything of infection, of the benefit conferred by isolation. This will be dwelt on more fully later; here I will only repeat what I said in last year's report that, in spite of the large number of cases, at no time could Scarlet Fever have been said to be epidemic; for instance, to compare it with Measles, at certain periods during the year there were districts where I should have feared to expose a child susceptible to Measles; I could not say the same of Scarlet Fever.

The following table gives the particulars as to the treatment of the cases in the two Sub-Districts; the cases in the General Hospital were either sent there by their friends, or admitted from amongst the out-patients.

Quarters.			1st	2nd	3rd	4th	Year.
East	Total	Cases	102	160*a*	161*b*	177	600
		Deaths ...	3	15	13	8	39
	Borough Hospital	Cases ...	96	137	142	152	527
		Deaths...	3	10	10	7	30
	General Hospital	Cases ...	2	6	5	4	17
		Deaths...	...	...	...	...	...
	At Home	Cases ...	4	15	13	21	53
		Deaths...	...	5	3	1	9

Quarters.			1st	2nd	3rd	4th	Year.
West.	Total	Cases... ...	77	125	132*c*	162	496
		Deaths ...	4	4	6	2	16
	Borough Hospital	Cases ...	61	99	97	123	380
		Deaths...	4	3	3	2	12
	General Hospital	Cases ...	...	4	2	5	11
		Deaths...	...	1	1	...	2
	At Home	Cases .	16	22	32	34	104
		Deaths...	...	...	2	...	2

(*a*) Two of these were in the Union.
(*b*) One of these left the Borough when reported.
(*c*) One of these was isolated in another Public Institution.

It is remarkable how much more fatal the East cases have been, the difference in fatality being amongst the cases treated in the Borough Hospital as well as amongst those treated at home, though much greater amongst the latter. The high home fatality in the East is not due to any deficient care, but simply to the number of very severe cases; for instance, of the 9 deaths, 6 were fatal in less than 48 hours after being reported. The two fatal home cases in the West were of the same type, both fatal within 24 hours of being reported; they were both in the poorer portions of the Sub-District, Temple Street, and Brickkiln Street.

The prevalence of the Fever increased rather steadily through the year; the rate of occurrence is best seen from the weekly number of cases reported in Table No. 2. The greatest excess was, as is usually the case, in October and November, towards the close of December there was a considerable reduction. This was maintained in 1895.

Since 1884 I have recorded all reported cases of Small-Pox, Measles, Scarlet Fever, Diphtheria, and Typhoid Fever; but this year I have had more accurate Registers kept from printed forms of inquiry which are bound in note books and used by the Inspectors when looking up reported cases. These Registers furnished the particulars given above about our Small-Pox cases; and I have abstracted from them the following about our Scarlet Fever cases. In making these abstracts I have counted adults as insusceptible to Scarlet Fever; and I have omitted cases in which the sick person was the only susceptible one in the house.

East Sub-District. During the year there were 261 instances in which one case of Scarlet Fever was removed to Hospital without a second case occurring in the house. In these 261 houses there were 788 children who had not previously had Scarlet Fever, and who were so far susceptible to infection.

There were 7 houses in which, in one instance 3, in six instances 2 children were simultaneously taken ill, and on removal no further case occurred. In these houses there remained 18 susceptible children.

In 50 instances second (and sometimes third) cases occurred without any Hospital removal, there were 61 such secondary cases; they occurred at the following intervals after the preceding case; one day, 17; two days, 12; three days, 6; four days, 8; five days, 5; six, seven, and eight days, 2 each; from nine to eleven days, 5; thirteen days, 1; sixteen days, 1.

In most of these Hospital removal was ultimately resorted to, and in 31 instances where 89 susceptible children still remained there was no recurrence after the removal.

We thus had 304 instances in which after Hospital removal no further cases occurred, though there were 895 susceptible children remaining in these houses.

In only 29 instances did second or third cases occur *after* Hospital removal, 41 cases so occurred, at the following intervals after the

removal of the previous case; one day 13; two and three days 3 each; five days 5; six days 1; seven days 2; from nine to fourteen days 5; seventeen days 2; nineteen days 2; twenty-five days 2; thirty days 2; thirty-five days 1. The first 13 were almost certainly infected before the removal; and the next 6 probably so; the last 9 were probably infected from some separate source; so that only 13 could be fairly suspected of being due to infection left behind after removal; or could be considered as failures of Hospital removal.

Further in these 29 instances, where cases recurred after removal, there were 25 where after ultimate removal no further cases occurred although 53 susceptible children remained. So that altogether 948 susceptible children in houses where Scarlet Fever occurred escaped infection after Hospital removal.

West Sub-District. There were 182 instances in which one case of Scarlet Fever was removed without a second case occurring. In these 182 houses there were 516 children so far susceptible to infection as not having had Scarlet Fever rendered them.

There were 4 houses in which, in one 3, in three others 2 children were simultaneously taken ill with Scarlet Fever, and on their removal no further case occurred. In these houses there remained 20 susceptible children.

In 39 instances secondary cases occurred without Hospital removal; there were 63 such secondary cases; they occurred at the following intervals after the preceding case; one day, 17 cases; two days, 10; three days, 5; four days, 4; five days, 2 cases; after seven, eight, nine, eleven, and twelve days intervals one case each occurred; after ten days, 3; after thirteen days, 2; after fourteen days, 4; and 1 case each occurred twenty-three, twenty-eight, thirty-five, seventy-four, and eighty-one after the last case was taken ill; and 2 cases each occurred forty-two, forty-five, and fifty-eight days after the preceding attack.

Now in these 39 instances, and in the 50 in the East, the previous case of Scarlet Fever was still in the house, and as the

average duration of infectiveness is 49 days, and in certain circumstances it is much longer than this; there is a strong presumption that the 124 secondary cases (61 East, 63 West) were infected from the preceding case.

In some of these instances Hospital removal was resorted to after secondary cases broke out; and in 14 instances there was no subsequent recurrence, 30 susceptible children remaining un-affected. We have thus had 200 instances in which after Hospital removal no further case occurred, there remaining in these houses 566 susceptible children. In only 31 instances was there recurrence *after* removal to Hospital, 41 cases so occurred, at the following intervals after the removal ; one day, seven cases ; two days, 5 ; three days, 5 ; four days, 3; five and six days, 1 each; seven days, 2; from eight to twelve days, 8 cases ; fifteen, sixteen, eighteen, twenty-five and thirty days, 1 each ; twenty-four and twenty-nine days, 2 each. The first 7 were almost certainly, the next 10 probably, infected before the removal took place ; the last 9 were probably infected independently. So that only 15 could be fairly suspected of being due to infection left behind after Hospital removal; or could be considered failures of Hospital isolation.

Further in these 31 instances there were 24 where no further case occurred after ultimate removal although 66 susceptible children remained. So altogether in the West 632 susceptible children escaped infection after Hospital removal.

The sum of the East and West is this—There was no recurrence of Scarlet Fever after Hospital removal had been effected in 504 houses, where there remained 1,461 susceptible children.

Without Hospital removal recurrence took place in 89 houses, 124 secondary cases occurring.

After Hospital removal recurrence took place in 60 houses, 82 secondary cases occurring; of these 36 were taken ill within three days of the removal, and were probably infected before it took place; 18 were taken ill more than a fortnight after the removal, and probably were independent infection.

Amongst the cases treated at home in a large number of cases there was no other child present; in a certain number of instances the remaining children were at once sent elsewhere; in a few instances death occurred at once and prompt burial ensued.

Excepting such as the above we had cases dealt with at home in the East in only 9 houses where there were other susceptible children. In only two of these was the infection limited to the first case; in these 2 houses 3 susceptible children escaped In 7 instances secondary cases occurred (there being 9 such cases); in 4 instances all those susceptible were attacked; in only three instances susceptible children (8 in all) escaped. (In 19 at home cases in the East there were no other children, in 4 the other children were sent away).

In the West cases treated at home in 25 instances there were no other susceptible children in the house. In 2 instances death was almost immediate. In 8 instances the other children (25 in all) were sent away.

In 36 instances other susceptible children were kept in the houses where the primary case was isolated. In 19 of these there was no spread of infection; 41 susceptible children escaping. In the other 17 houses secondary cases occurred, 30 other children being attacked. In 7 instances all the children present (21 in all) were attacked. In the remaining 10 houses, 16 secondary cases occurred (26 cases including the primary); and there still remained 22 children who escaped.

The above bare figures show plainly the immense advantage that Hospital removal has in limiting infection. But in order to fully appreciate its value two other points must be borne in mind. First, that in *every* case where home isolation was adopted there was abundant facility as regards house room and attendance for carrying it out; whereas in the great majority of the cases removed to Hospital, especially in the East, there was absolutely not the slightest chance of any home isolation at all. Further, the above figures only deal with the limitation of infection in the families attacked. When we consider the free intercourse amongst the poor, especially when any

sickness gives extra reason for such; and when we think how soon the healthy infectious convalescents from Scarlet Fever would be mixing with their neighbours; I think we will be convinced that the limitation of home infection from Hospital isolation is far less than its limitation amongst the neighbours.

I believe that facts like these are much more likely to show the truth than arguments from the course of the disease over a few years. Taking into account the very general prevalence of the Fever throughout the Borough, and the scattered occurence of the cases, the conclusion seems fairly justified that the period was acutely epidemic; by which I mean it was one of those recurrent periods during which, owing to conditions at present unknown there is either a wide-spread susceptibility to the infection, or an extra degree of infectiveness in the germs of the disease. And there is little doubt too but that it was owing to limiting the dissemination of the germs by free Hospital Isolation that we escaped a formidable epidemic.

One outbreak of Scarlet Fever was traced to a milk origin. When entering up our records it was noticed that eleven households, widely apart' having no association, few of them at all exposed to any of the ordinary sources of infection (such as school), and all of them well to do, were attacked by Scarlet Fever within a brief period, and all had the same milk supply. The eleven households were attacked on the following dates; 1 on August 21st; 2 on the 22nd; 1 on the 24th; 2 on the 25th; 4 on the 26th; and 1 on September 2nd; eighteen persons were taken ill at first. The milk was found to be from a farm where a shepherd, who assisted in milking, had a daughter, aged nine, taken ill with Scarlet Fever on July 20th; this child would be peeling freely just previous to the above outbreak and there would be every probability that the dust from her would be conveyed by her father to the milk. There does not appear to have been any particular precautions taken in reference to this case; the father was not even kept from the cows until our inquiries, made in consequence of our outbreak, drew attention to the matter.

Diphtheria. The Quarterly cases of, and deaths from Diphtheria since 1890 have been—

	1890	1891	1892	1893	1894
Cases	11, 3, 4, 5;	8, 8, 6, 11;	1, 7, 4, 4;	7, 5, 12, 11;	11, 16, 33, 22.
Deaths	3, — — 1;	1, 2, 1, 1;	— 3, 1, —;	— 1, 1, 3;	5, 8, 10, 10.

The Annual cases and deaths in the Sub-Districts have been—

		1890	1891	1892	1893	1894
East....	Cases —	11	8	3	14	36
	Deaths—	2	1	2	2	20
West ..	Cases —	12	25	13	21	46
	Deaths—	2	4	2	3	13

The proportion of deaths to cases in the East this year shows that a large number of cases are unrecorded.

Our death records go back to 1872, and for the 22 years preceding 1894 the annual deaths from Diphtheria averaged 5·5, the highest return was 10, and this was only reached three times. This year the deaths number 33.

Both in cases and deaths there is an enormous increase this year, mainly in the second half of the year. This increase is quite unaccounted for.

The following is a brief summary of the year:—

East Sub-District. *First Quarter.*—8 cases; 3 were subsequent to Measles, and all proved fatal. 2 cases were in one house, the second was the mother of the first and taken ill ten days after; almost certainly from personal infection. The other cases were unassociated with each other in any way.

Second Quarter.—Of 8 cases 2 were near and intimate; 6 were widely apart and had no common factor.

Third Quarter.—11 cases. 1 was immediately subsequent to Scarlet Fever. 2 were children in one house. 1 case had been staying at a house where there was a case of Quinsy (under a doctor's care.) In one case another child in the house had been ill some time previously with sore throat and sickness.

Fourth Quarter.—9 cases. 3 were children in one house, ill at a few days interval; no doubt personal infection; all three died. 1 fatal case was at a house were a sister had died of "Croup" 12 days previously, and several other inmates had sore throats; there was a bad back-poundage of sewage in the cellar. In another case (fatal) a brother had had a sore throat.

In only 4 instances during the year was there sewage association.

West Sub-District. *First Quarter.*—3 cases. Nothing made out.

Second Quarter.—8 cases. 1 was after Measles; 1 was a delicate child and had "Croup" two months before; 1 had been petting and kissing a kitten which was ill, kitten had been destroyed by doctor's orders; 1 was in a very damp house; 1 case followed three weeks after recovery from Scarlet Fever.

Third Quarter.—22 cases. 2 cases in one house, mother and son, both liable to Quinsy; 4 cases in one house within a few days of each other, and following case of a cousin, two doors off, whom they were frequently with: 3 cases in one house within 5 and 10 days intervals; 3 cases in one house, said to be taken ill together.

Fourth Quarter.—13 cases. 2 in one house, 6 days interval, others all separate cases. In only six instances during the year definite sewage association was found.

Typhoid Fever.—The cases and deaths for the last five years are:—

		1890	1891	1892	1893	1894
East....	Cases —	22	34	22	53	27
	Deaths —	6	5	6	7	10
West ..	Cases —	22	64	53	83	54
	Deaths —	3	11	9	16	7
Borough	Cases —	44	98	75	136	81
	Deaths —	9	16	15	23	17

The diagnosis of Typhoid Fever is often impossible under the personal circumstances in which many of the poorer classes are seen in private, and many of the milder cases probably have no doctor, so that in spite of notification, the above returns of cases are very

defective, especially for the poorer districts. Probably there were many more than 54 in the West, and two or three times 27 in the East.

East Sub-District. *First Quarter*.—Only 5 cases; separate; nothing definite in any case; none fatal.

Second Quarter.—Only 3 cases; one was associated with extreme filthiness, especially in reference to the pan-closets. There was a death certified as due to Typhoid Fever, but afterwards a post-mortem showed the return was incorrect.

Third Quarter.—9 cases, 3 deaths; no very definite cause in any case, all separate. One case died during the next Quarter.

Fourth Quarter.—10 cases, 5 fatal, so that out of 19 cases in the second half-year 9 were deaths; this plainly indicates a large number of cases unreported. The 10 cases were all unconnected.

Of the 17 cases in the first three Quarters 12 were from the poorest localities; all the 10 cases in the last Quarter were so.

West Sub-District. *First Quarter*.—12 cases, no deaths. In three cases sewer gas may have contributed; one case may have been direct infection.

Second Quarter.—13 cases, 1 death. Two cases came ill from a distance. In three instances there was defective drainage. All the cases were separate.

Third Quarter.—13 cases, 3 deaths. Seven cases were in one small street where there had been two cases in the First Quarter and one in the Second. One of the other cases came ill from a distance. All the cases were separate.

Fourth Quarter.—11 cases, 3 deaths. Two cases were in one house in the street mentioned above. During the year there were 12 cases in this street; one at No. 12; two at No. 16 (the Fourth Quarter cases); one each at Nos. 18 and 19; two at No. 25, (one January, other July); one each at Nos. 26, 30, 31, 32, 34. I could find nothing whatever local, except poverty. The only point that occurred to me as a possible solution of at least some of these cases is that the folks in this street are nearly all of them, at times, engaged in gathering watercress; in some instances the illness was

attributed to chill when so engaged. It is quite possible that infection may have been got from cresses growing in foul water and eaten without proper washing. Three other cases in the Fourth Quarter were at a small house where a girl was ill with Typhoid from last Quarter; these were probably direct infection. One case was at a house where well water was used; this was found, on analysis, to be contaminated.

Whooping Cough—Whooping Cough appeared in the East Sub-district towards the end of January, and continued present though not prevalent to near the close of the year. In the West it appeared later and lasted longer. There was no epidemic, but there were many more cases than last year.

Influenza—Influenza was slightly epidemic in January, and present in February. There was a slight recurrence in April and May; and again in December.

BOROUGH HOSPITAL

The Quarterly numbers dealt with have been as follows;—

Quarters.	Remaining in from previous Quarter.	Admitted.		Total Discharged		Died.		Average No. of days in c the case Admitted
		Scarlet Fever.	Small Pox.	Scarlet Fever.	Small Pox.	Scarlet Fever.	Small Pox.	
First ...	112	166*a*	...	200	...	11	...	43·1
Second...	78	240*b*	22	200	13	14	3	40·1
Third ...	127	251*c*	24	247	27	12	2	40·0
Fourth...	128	298*d*	21	296	18	11	...	41·9
Year ...	112	955	67	943	58	48	5	41·3

(*a*) 6 from Tettenhall and 2 from Heath Town.
(*b*) 5 from Heath Town.
(*c*) 6 from Tettenhall and 5 from Heath Town.
(*d*) 7 from Tettenhall and 1 from Heath Town.

Leaving 133 patients in at the close of the year, 124 cases of Scarlet Fever, and 9 of Small-pox.

With regard to the Small-pox cases the report on that disease has already practically given the particulars. The only additional points are these. In the Second Quarter we had 19 cases from the Borough, and 1 from Heath Town, also the case of Scarlet Fever that took Small-Pox in the Hospital. There were two cases admitted on suspicion, they were both promptly vaccinated; they proved not to be Small-Pox and both went out well. In the Third Quarter 22 cases of Small-Pox were treated from the Borough. 2 cases were admitted on suspicion, vaccinated, and went out well. In the Fourth Quarter besides the 20 cases from the Borough, one case came ill from Tipton to the General Hospital, and was admitted from there to the Borough Hospital. Thus during the year two cases, one this latter, and the other from Heath Town were dealt with, besides our own cases already enumerated. Their vaccination and results were:—Heath Town Case. Male aged 18. Vaccinated in infancy, 4 foveated marks, 2 size of shilling each, 2 of sixpence. Rash semi-confluent on face, scattered on body; dried up in a few days; no illness after onset. Tipton Case. Male aged 18. Un-vaccinated. Moderate illness. Rash discrete, pocks rather numerous, each pock suppurated and left distinct cicatrix.

Scarlet Fever.—The cases have been so many that it is necessary to take them Quarterly; the following summary is in each instance of the cases admitted during the Quarter.

First Quarter.—166 were admitted as Scarlet Fever. Five had not Scarlet Fever when admitted; of these five one was a severe case of Measles with Pneumonia, it was quarantined and proved fatal. Two went out well. Two took Scarlet Fever 3 and 4 days after admission, one was a severe case, both did well. Thus 163 cases of Scarlet Fever were treated. 11 were fatal; 9 were very severe; 18 were severe. The ordinary complications were Rhinitis (soreness in nose), 7 cases. Otorrhœa (ear-discharge), 5 cases. Adenitis (glandular inflammation) 4 cases. Suppuration, 4 cases. Rheuma-

tism, 1 case. Albuminurea, 3 cases (one came in with it). One case was found to have Whooping Cough twelve days after admission, evidently contracted outside; the case was separated and there was no extension. Six cases had Chicken Pox; two had it when admitted on March 27th and 28th: two others had the rash on April 4th; one 42 and the other 44 days in the Hospital. Another on April 21st, 39 days then in; another on April 22nd, 29 days in.

The gravest trouble we had was an outbreak of Rotheln (German Measles). On January 20th, a child was admitted peeling freely after Scarlet Fever; 2 days after she was taken ill with Rotheln, evidently contracted outside. February 1st a second case occurred (had been then 13 days in). February 13th and 14th, a third and fourth case occurred; had been 32 and 35 days in. February 16th, 2 more were taken, had been 23 and 29 days in. February 25th, a seventh case; 20 days in. March 2nd, two more cases, 18 and 24 days in. March 5th 3 more were taken, 21, 30, and 31 days in. A thirteenth case occurred on March 15th, 30 days in. And on March 19th a fourteenth, 40 days in. Besides this a child discharged well on February 24, having been 44 days in, was taken with Rotheln at once on returning home. We did all in our power by isolating suspects, and promptly removing all declared cases to the wooden annex to cut short this outbreak. Three of the cases were fatal, one from Pneumonia, two from bad throat trouble of a Diphtheritic type. The child that developed Rotheln after going home died in a few days, and was registered Diphtheria.

Our eleven deaths were as follows, age, cause, and duration of stay in Hospital. $3\frac{1}{2}$ years, Measles and Throat mischief, 42 days. $3\frac{1}{2}$ years, sloughing throat; laryngeal trouble; 10 days. $2\frac{1}{2}$ years, Measles and Pneumonia, 34 days. 4 years, Acute Nephitis, 33 days. 14 months, severe throat and laryngeal trouble, 12 days. $2\frac{1}{2}$ years, Measles and laryngeal trouble, 33 days. 3 years, severe throat and glandular trouble, toxæmia, 28 days. 5 years, malignant case, 1 day. 3 years, bad throat, toxæmia, 11 days. $3\frac{1}{2}$ years, bad throat, toxæmia, 19 days. 3 years, severe Varicella as well as Scarlet Fever, Pneumonia, 19 days.

Second Quarter.—240 cases were admitted. 2 of these had fresh rash and fever, 5 and 8 days after admission; unfortunately both these cases were fatal. 14 cases altogether were fatal; 12 were very severe; 37 were severe. Complications were:—Rhinitis, 8 cases. Otorrhœa, 9 cases. Adenitis, 4 cases. Suppuration, 4 cases. Rheumatism, 3 cases. Chorea, 1 case. Albuminurea, 1 case. Pneumonia, 1 case. 4 of our cases had Chicken-Pox; the first on May 21st, 47 days after admission; the others were on June 8th and 27th, and July 16th; 57, 43, and 48 days after admission. I could'nt account for these cases. Nor for one apparent case of Rotheln, which occurred on May 17, 38 days after child's admission.

The deaths, age, cause, and stay in Hospital were—2½ years, severe throat, toxæmia, 2 days. 2 years, sloughing throat and nares, toxæmia, 8 days. 11 months, toxæmia, 3 days. 5 years, toxæmia, 2 days. 2 years, diarrhœa, 33 days. 1 year, double otorrhœa, toxæmia, 19 days. 1 year, suppuration, toxæmia, 13 days. 4 years, otorrhœa, septicæmia, 77 days. 7 mos. diarrhœa, 32 days. 4 yrs., cellulitis and suppuration of neck, sloughing, hæmorrhage, 20 days. 2 yrs. severe throat, toxæmia, 4 days. 3 yrs. toxæmia, 10 days. 5 yrs. severe throat, toxæmia, 4 days. 3 yrs. sloughing throat, toxæmia, 18 days. 16 yrs. gastro-enteritis 58 days, (this case had just recovered from a very severe prolonged attack of Scarlet Fever, when some unripe fruit was surreptitiously conveyed to him, and this set up severe vomiting and diarrhœa, from which he sank). 8 mos. specific disease and laryngeal trouble; there was really no evidence that this child had Scarlet Fever at all, though we could not actually deny it; 25 days.

Third Quarter.—251 cases were admitted. Four proved not to be Scarlet Fever; two were discharged when the fact that they were not Scarlet Fever was established; two took the disease five days after admission, both did well. Thus 249 cases were treated, 13 were fatal; 10 were very severe; 41 severe. Complications were—Rhinitis, 20 cases; Otorrhœa, 9 cases; Adenitis, 4 cases; Suppuration, 4 cases (2 double and very severe); Rheumatism, 1 case; Pneumonia, 2 cases. We again were troubled with Chicken Pox; a child was

admitted (Scarlet Fever) on July 1st and found to have the scabs on it; the case was separated, and we had apparently no extension then. On October 14th and 17th fresh cases occurred, had been 48 and 34 days in; and two others (brother and sister) on November 3rd, had been 40 days in. Further a brother and sister discharged on October 12th had Chicken Pox at home on the 17th. The account of this outbreak belongs to next Quarter, and will be taken up then.

The most alarming complication this Quarter was a series of bad secondary throats, attacking convalescents, and suspiciously like Diphtheria. The first case was on August 31st, had been 24 days in; next day another case (35 days in) occurred (fatal); on September 17th, 26th, and 28th, three children (same family, 21, 30, and 32 days in) were taken, the first fatal; on September 25th and 27th two more cases, 17 and 21 days in (former fatal). On October 3rd three more cases; two same family, 37 days in (one fatal); one 20 days in. The probability is that some case or cases of mild unsuspected Diphtheria were amongst our cases infecting the above. Of course all that was possible was done in the separation of actually detected cases; but our means were scarcely sufficient for the demands.

The 13 deaths were, ages, causes, and stay in Hospital:—3 years, laryngitis, tracheotomy, 36 days (this might have been Diphtheritic). 1½ years, suppuration, pneumonia, 55 days. 12 years, severe adenitis, convulsions, 9 days. 13 months, pneumonia, secondary throat, 54 days. 18 months, secondary throat, exhaustion, 26 days. 21 months, secondary throat, 54 days. 4 years, toxæmia, 5 days. 2 years, secondary throat, 23 days. 2 years, severe primary throat, laryngeal trouble, 28 days. 3 years, severe primary throat, toxæmia, 13 days. 8 months, toxæmia, 6 days. 15 months, meningitis, 17 days. 13 months, ill nourished, feeble infant, toxæmia, 12 days.

Fourth Quarter.—The number and severity of the cases, the number, variety, and gravity of the complications; and all this occurring when the winterly weather kept our patients indoors and rendered our ventilation difficult and defective; made this Quarter by far the most anxious and laborious that we have ever had. In

fact the work was altogether more than our means could properly cope with. The figures speak for themselves. 298 cases were admitted. 18 of these proved not to be Scarlet Fever; 15 of these were discharged when this fact was assured; 1 was a severe case of Pneumonia, but recovered and went out well; 2 took Scarlet Fever, both did well. 14 other cases that had no certain signs of Scarlet Fever when admitted, subsequently peeled, proving that they had had it. Of the 282 actual cases of Scarlet Fever treated only 9 were fatal, a very low mortality, especially considering the nature of the cases and the complications. 11 cases were very severe. 45 were severe. The complications were—Rhinitis, 29 cases. Otorrhœa, 9 cases. Adenitis, 9 cases. Suppuration, 8 cases. Rheumatism, 2 cases. Pneumonia, 5 cases (1 fatal). Albuminurea, 2 cases. Purpura, 4 cases (1 fatal). Impetigo, 11 cases. Other diseases—Whooping Cough, 3 cases; a case admitted on November 7th was found to have Whooping Cough, was kept apart, no definite signs of Scarlet Fever, but strong suspicion of it, ultimately there being no peeling was discharged on December 4th: on November 27th a case of Scarlet Fever came in who also had Whooping Cough; went out well on January 5th, 1895; on January 1st a child who had been in since November 15th was found to have Whooping Cough. We separated these cases as far as possible and had no further extension. Chicken Pox.—The outbreak referred to as affecting cases admitted in the Third Quarter really began in the Fourth Quarter's patients. The first detected cases in this outbreak were two on October 14th, one, last Quarter's, had been 48 days in, the other only 5; the former must have been infected in the Hospital, the latter may possibly have been so but it is most unlikely; October 17th, 1 case, 34 days in; October 20th, 2 cases, 16 and 18 days in, there was Chicken Pox at the home of the latter; October 31st, 1 case, 22 days in, had been sleeping with one of the cases taken on October 14th until that date; November 3rd, 4 cases, 2 (a brother and sister, last Quarter's cases) 40 days in, the others 25 and 31 days in; November 4th, 2 cases, 15 and 22 days in; November 15th, 3 cases, 19, 23, and 28 days in; November 16th, 3 cases, 17, 30, and 31 days in; November 17th, 1 case, 37 days in; we then had an interval until

December 14th, 16th, and 18th, one case each day, 29, 32, and 36 days in. Moreover, children discharged apparently perfectly well on November 24th 1 case, 28th 2 cases, and December 4th 1 case, had Chicken Pox at home shortly after discharge. Above cases were separated promptly when detected, but as they would be infectious for days before this it was impossible to meet the outbreak successfully. Trifling as the disease is the greatest anxiety was caused by the outbreak, especially as in many instances it occasioned very prolonged detention in the Hospital. Secondary Throats (? Diphtheritic). After the three of last Quarter's cases on October 3rd we apparently remained clear until November 9th; but a boy admitted on November 5th, and who had no secondary sore throat, ultimately had symptoms which proved him to have had Diphtheria, he was then separated, but before this he may possibly have originated some other cases. Fortunately our total was small. November 9th 1 case, 29 days in; 14th, 2 cases, 21 and 25 days in, former fatal; 16th, 1 case, 17 days in, fatal; December 13th and 16th, 33 and 22 days in; January 28th, a slight case, 32 days in.

Our 9 deaths were, age, cause, stay in Hospital:—16 months, severe primary throat, sloughing and hæmorrhage, 8 days. 3 years, secondary throat, collapse, 25 days. 2 years, weakly child with chronic kidney mischief, had Chicken Pox, severe succession of crops; general dropsy, 47 days. 15 months, secondary throat, 23 days. 16 months, diarrhœa, 9 days. 6 years, purpura, sloughing stomatitis, hæmorrhages, 24 days. 21 months, cellulitis of neck, 48 days. 21 months, pneumonia, 25 days. 5 years, severe primary throat and laryngeal trouble, 12 days.

The proportion of cases which ultimately proved not to be Scarlet Fever was exceptionally high this Quarter. In these cases I rely on the subsequent absence of peeling as a contradiction of the original diagnosis. Possibly the accuracy of my observations in this particular might be questioned, but from no case sent home as *not* Scarlet Fever did any infection arise. Even the actual occurrence of a fresh attack in the Hospital is not always considered a positive proof that the diagnosis was wrong, for secondary attacks are said to occur, though

they must be exceedingly rare. Influenza may have accounted for some of the errors, as sore throat is common and rash not very rare in this diseaase. Chicken Pox may also have caused some confusion, as it not unfrequently commences with a general rash closely resembling Scarlet Fever; this is the more likely as it was prevalent; and if so our outbreaks of Chicken Pox may have been thus fostered.

During the year thirty patients were attended by their own doctors; five doctors so attending.

During the year the actual number of Scarlet Fever cases treated was 934, of these 47 were fatal, 5 per cent. This is a moderate death rate.

There is no doubt but that during the year patients discharged from the Borough Hospital did occasionally convey infection home, and, I believe, in most of such instances, the actual cause of the mishap was evident, but their actual number was a very small proportion of the 895 who left the Hospital. Of course, where Scarlet Fever was so prevalent a number of coincidences would readily occur, and such have strengthened the erroneous idea that re-infection after discharge is common. In several instances cases occurred a few days prior to the former case being discharged from the Hospital, such being amongst those instances already alluded to where re-currence took place long after removal.

When Scarlatinal infection takes place the rash almost always appears in 3 or 4 days; it is rarely delayed beyond seven; now, as infection would probably take place very soon after the case came home, if the rash in the re-current case is delayed much over seven days, there is inherent probability that the infection was from some other source; unless some lasting infective condition is found in the returned child.

In 45 instances cases occurred after the return of a previous case from the Hospital. The number of days after the return were as follows:-84, 46, 44, 38, 29, 28, 25, and 24 days in one instance each; days in 2 instances; in these cases it is practically impossible that

the re-infection could have been due to the discharged patient. 18 days after return, 4 cases; 1°, discharged child, a 7 months baby, quite free from signs, 38 days in, 40 days ill. 2°, discharged child had only been 5 weeks in Borough Hospital, (39 days) ill, had no signs. 3°, had been 47 days in, had had severe Rhinitis, this recurred badly after discharge. 4°, was 3 weeks ill at home before being moved, detained 22 days in Hospital, free from any signs. Here 3° certainly carried infection, 2° may have done so, 1° and 4° probably did not. 15 days after return, 2 cases, 1°, no signs, 41 days in, a case next door and others in the vicinity. 2°, 18 months child, no signs, 38 days in, 41 days ill. In neither of these cases is infection at all probable. 14 days, 1 case, had been 61 days in Hospital, delayed by abscess, and some scabbing of the skin (impetigo); after discharge the latter condition recurred, and may, I suspect, have been infective. 13 days, 1 case, 44 days in, 47 ill, no signs whatever. Infection improbable. 12 days, 1 case, 3 years old, 37 days in, 39 ill; no signs. Improbable, but stay in Hospital rather short. 11 days, 1 case; 43 days in, 46 ill; had nasal discharge when in, and this recurred after the return home. Infection most probable. 10 days, 1 case, 39 days in, no signs, 5 other children at home uninfected. Infection improbable. 9 days, 3 cases, 1°, 35 days in, 37 ill; said to have some impetigo after return. Infection very probable. 2°, only 30 days in, 33 ill, no signs whatever; was sent away from home 2 days after return, and next case occurred 7 days after this. Infection improbable, though stay in Hospital short. 3°, 10 weeks in Hospital, delayed by attack of Measles, no signs, infection improbable. The probability of infectiveness increases with the shorter intervals in the following, except that in the 2 cases at 1-day interval there is hardly time for infection. 8 days, 2 cases; 7 days, 1; 6 days, 3; 5 days, 4; 4 days, 3; 3 days, 4; 2 days, 2; 1 day, 2. Of these 21 cases in 7 infection was most likely, there being recurrence of either nose discharge, or skin sores after the return home. In none of the other 14 was anything to account for infectiveness, but 6 of them had been cases of unusually short stay in the Hospital. Now, making the worst of the above, in 10 cases infection was almost certainly conveyed; in 6 cases it was probably

so ; in 11, possibly ; in 8, most improbable ; in 10, practically impossible. Out of 895 this is really a very small proportion of mishaps. I deeply regret, however, that I cannot repeat last year's boast that in no instance was infection conveyed in the person of the patient, (for this whole subject see 1893 report, pages 22 and 23). From the above it will be seen that in some instances I express a doubt as to whether the case had been isolated long enough ; and in some others infective conditions recurred after discharge. These were both due to the excessive pressure on our space, which necessitated some risk being incurred through a rather early discharge. Some of the cases I sent out becausc they were not doing well in consequence of our crowding ; and, feeling confident that many of our most serious complications mentioned above were due to the same cause, I ran some risk in discharging cases to try and reduce it.

Disinfection.—The Quarterly number of articles stoved have been 5,609 ; 5,338 ; 6,785 ; 8,986 ; 26,718 in the year. 48 articles were burnt. Rooms in 683 houses, and 10 vehicles were disinfected with sulphur fumes. This is not a satisfactory process, and the adoption of something more efficacious is being considered.

METEOROLOGY.

(See Table 3).

First Quarter.—This Quarter was a mild one, but at times the temperature was very variable ; the first week was very cold (mean temp. $25^{0}{\cdot}8$, minimum $7^{0}{\cdot}3$, the lowest we have recorded) ; severe night frosts conti$_{n}$ued through the second week, but the day temperatures were moderate. From the third to the seventh week inclusive, the mean temperature was moderate, night frosts were frequent but seldom severe ; the day temperature still rather mild. During most of this period high winds caused the weather to be much severer than the actual temperature would indicate. The eighth week was very cold, severe frosts every night. During the remaining five weeks night frosts were frequent, but the mean temperature was moderate,

the day temperature ranging fairly high. The cold was again intensified by high wind during the ninth and tenth weeks.

The amount of wind during the Quarter was very remarkable, being excessive all through except on the eighth, twelfth, and thirteenth weeks. There were severe gales on January 19th, 27th, 28th, and 29th, and February 1st and 2nd; storms on February 6th, 7th, 10th, and 11th, the last being a hurricane of most exceptional violence; stormy from February 26th to March 1st, and on March 11th and 12th. The high winds were invariably Westerly, usually South-West.

The Rainfall was low, 5·23 inches. During the first week there was frequent snow; a snowstorm on January 4th; some heavy rain fell during the seventh week; there was a hailstorm on March 13th. Moderate showers were fairly frequent, but the low rainfall and high wind produced considerable dryness.

The Humidity (85) was low for the season. Bright weather was the rule; hot sun not uncommon; there were fogs for two days in the second week, for three in the eighth, and one in the twelfth week.

The Barometer ranged moderately high, there were many and extreme variations, due to the stormy weather.

Second Quarter.—The weather was on the whole very fine. Up to May 5th there were fairly warm days, nights cold, but excepting two slight frosts not severe. Moderate showers were frequent, fine and bright between; thunderstorm on April 11th. During the next fortnight rain was heavier and more frequent, but still bright between; and temperature moderately high. During the week ending May 26th, the day temperature kept up (maximum 64°·3), but there were severe frosts on four consecutive nights (lowest temperature 25°·7); there was a slight snowstorm on May 20th, thunderstorm, May 26th, but as a rule the week was fine and dry. During the next three weeks (ending June 16th) rain was heavier and more frequent; there was a thunderstorm on the 3rd; the temperature kept rising. During the twelfth week there were only a few showers, one day was rather

damp, the rest fine and very hot. The last week was constantly fine, no rain, temperature up to 80°·4, very close at times.

The prevailing wind was Easterly or North-Easterly, but South-West winds were also fairly frequent.

The Rainfall was moderate, 7·38 inches.

The Humidity (78) was fairly low.

The Barometer was high, variations, as a rule, slight.

Third Quarter.—The weather for the Third Quarter has been very bad. The first week was fine and warm, but after that showery or dull weather, with moderate temperature, sometimes rather chilly, was the rule. From the second to the eighth week there were frequent showers, rarely very heavy; very little bright sunshine. From the ninth to the twelfth week there was very little rain, but constant dulness and much cold. The thirteenth week was very cold and rather wet. There has been scarcely more than three weeks of real summer weather, the last two of the previous Quarter and the first of this.

The prevailing winds were Westerly, during the fourth and the last three weeks the wind was Easterly, inclined to North.

The rainfall was rather moderate, 6·73 inches.

The Humidity was high, 84.

The Barometer was fairly steady, and as a rule, very high, especially during the last six weeks.

Fourth Quarter—There was very little severe weather, but it was usually very unpleasant. The temperature was moderate throughout; much below the average in October, rather above it in December; the lowest recorded was on October 22nd, 20·0. There were very few frosts; the temperature fell below freezing point three times in October, twice in November, eleven times in December, (*i.e* excluding 30th and 31st, not recorded in this Quarter); below 27° once in October, once in November, thrice in December. There was but little bright

sunshine, the weather being usually dull and damp ; the brightest period was during the last two weeks of November and the first three in December. Showers were fairly frequent, heavy rain exceptional.

The prevailing winds during the first three weeks, and on the ninth, were North-Easterly. During the rest of the Quarter they were Westerly inclined to South. The wind was usually moderate, it was high on October 23rd, 24th, 25th, and 31st ; November 13th ; December 18th, 19th, 21st, 22nd, 28th, and 29th.

The rainfall was 7·82 inches, very moderate for the season.

The Humidity 91 was high.

The Barometer was high and steady during the first, second, fifth, eighth, ninth, and eleventh weeks; for the rest of the Quarter the variations were extraordinary, both in their degree and rapidity.

The total rainfall for the year was 27·16 inches.

Explanatory Remarks on the Tables.

The Returns made by the Registrar for the East Sub-District include all deaths occurring in the General Hospital and Workhouse ; many of these are from outside the Borough, a few are returned as "no home," the others are of persons from the East and West Sub-Districts. Throughout the Tables the few cases returned as "no homes" are included in the East figures ; the deaths from outside the Borough are excluded altogether (except in the uncorrected figures in Table 8), and the deaths from the East and West are referred to their own Sub-Districts. Particulars of these deaths in the Hospital and Workhouse are given in Table 7. In Table 8 the comparison between the Sub-Districts in all years before 1884 is misleading, as the East deaths include many really belonging to the West ; the second row of figures in each year since 1884 are the corrected returns, the first row (given to compare with former years) are the Returns as sent in by the Registrars.

Table 10 gives our comparison with the other 32 great towns. The third column in this Table does not give the actual death rates, but the rates corrected for the age distribution of the populations. The death rate varies in the different age decades, for instance is very high under 5 years and over 60 years ; comparatively low between 20 years and 40 years. Thus a district whose population consisted of persons under 5 years and over 60, with a death rate of 40, might be far healthier (as far as death rate is an index of health) than a district whose population was between 20 years and 40, with a death rate of 10. In the third column in Table 10 the rates are what they would have been had the age distribution in each town been the same as in England and Wales, and are therefore a much more accurate comparison than the actual death rates ; the mortality figures in the fourth column are based on the corrected death rates.

Vital Statistics.

From Table 10 we see that our corrected death rate 21·66 is above the average of the 33 towns, 19·59 ; we are twenty-eighth. Our Zymotic death rate 3·23 is much above the average, 2·44 ; only two towns are higher. Measles much above average, one town the same, only two higher. Scarlet Fever highest (0·63, average 0·21). Diphtheria 0·41, just above average 0·38. Deaths under one year to a thousand births rather above the average, eight towns exceeding us. Diarrhœa 0 75 much above average 0·51 ; only four towns higher. We exceed the average total death rate by 2·07, the average Zymotic death rate by only 0·79 ; the former is very unsatisfactory, the latter is trifling. In fact the Zymotics in the towns have been exceedingly low, and though ours exceeds them it is not a high rate. When the Zymotics are deducted our death rate still exceeds the average by 1·28, and this is a matter of considerable gravity.

That we should head the list in Scarlet Fever is at first sight alarming; but it must be remembered that nearly all these towns are isolating ; and that our rate is not high ; we have probably had a greater prevalence of a severer type as one of our year's accidents.

Last year, though the general prevalence of Scarlet Fever was very low, eight of the towns exceeded Wolverhampton.

Table 9 gives our comparison with the last ten years in the final column A. The death rate 20·2 is fairly moderate; Zymotic death rate slightly high; the main contributants being Measles 73, Scarlet Fever 55, and Diphtheria 33. The deaths of children over one and under five years, 310, exceeds the average 272.

Table 8 shows the share the two Sub-Districts have in the year's rates and their progress for the last 22 years. We see that though there is great improvement in the death rates since last year, in the West it amounts to 1·8, in the East to 1·7, yet the terrific difference in the sub-district that was then commented on is actually increased. Last year the difference 8·6 was far the highest we ever have had, this year it is actually 8·7. And whereas the West Zymotic death rate 2·6 is less than last year, the East 4·9 is actually 1·0 higher, and is an exceedingly high Zymotic death rate. It is evident that whatever causes our unfavourable comparison with the other towns it must be sought for in the East.

Turn to Table 5, and compare the year's figures for the Sub-District, we see the difference already seen in table 8, and further the the following excesses of East over West. Birth rate 7·4. Deaths; over 60 years, 25. Under 1 year, 68. 1 to 5 years, 88. Measles, 15. Scarlet Fever, 23. Phthisis, 33. Respiratory Diseases, 107. The last is far the most startling item, the East being not far from double the West. Further notice that these startling differences, especially the Respiratory Diseases, are at their extreme in the winter Quarters; in the Third Quarter the Respiratory difference is only 3. All this really points to the same conclusion I have so often drawn, that the East (and through them the Borough) returns are mainly bad because of social conditions. A poor, early-marrying population, with a high birth-rate, and a large proportion of feeble ill-cared for children who succumb readily to disease. Insufficient food, clothing, warmth and and shelter. Living many of them in the densest parts of the Borough; often in defective, damp, and draughty houses. All of these things readily produce such effects as are shown in the above death returns.

It may be said that Wolverhampton should not suffer from such particulars more than other large towns ; but I have always contended that it does so suffer beyond the average. We have in the loss of certain trade suffered specially ; the more so because of circumstances needless to refer to here. Our poor-rate may be taken as something of an index of our condition, and it certainly exceeds that of the other towns far more than our death rate does. *

Of course we stand high and are therefore much exposed, and by our site the poor East is most exposed ; this too contributes to the particulars of our death roll.

The Quarterly particulars and details are readily seen from the tables ; and they have already been fully commented on in the Quarterly Reports.

Sanitary Condition of the Borough.

The effects of poverty to which I more particularly refer above are the more direct effects, such as insufficient food and clothing, shelter and firing. Such matters are beyond sanitation. So also in a measure is another effect of poverty, ignorance ; not only in respect of infectious disease, or management of illness generally; but even of how to live. Erroneous notions about feeding and cooking (especially child feeding) and ignorance of ventilation, and the value of pure air and sunlight and cleanliness; are all of them no doubt answerable for much needless suffering and death amongst the poor. And teaching these things is hardly within our scope. But much of the insanitary conditions of our Borough are also due to poverty, and do fall within our scope, and are dealt with ; though not so fully as they ought to be were they less painful or more hopeful. Such are, over-crowding, living in ill-ventilated or damp or draughty houses, or in houses in close unhealthy

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* I have not been able to get the Poor rate of ten of the large towns, of the other 23 Wolverhampton is first, 2s. 1d. and actually 4d. higher than the next average of the other 22 is only 1s. $2\frac{1}{2}$.

situations, or dirtiness in respect of yards, drains, and ashpits. When people are too poor to rent roomy and healthy houses we can serve notices on them to cease overcrowding, or we could, within certain limits, close dubious houses and turn their tenants adrift, but the wisdom and kindness of such a proceeding is not always certain, and the acute hardship on the unfortunate poor is. There are, in Wolverhampton, an enormous number of houses not strictly fit for habitation, and a considerable number quite unfit; the latter must be closed, by degrees; and the former eventually. But there is no use in so doing if there is nowhere else for the poor to go to, at least, none that they can afford to pay for.

Again, a less excusable matter is the frequent filthiness of common yards, closets, &c. This is generally due to the neglect of a few of the tenants who cannot be easily detected, and all we can usually do is to summon the innocent with the negligent, an irritating proceeding.

Another very insanitary effect of poverty is the attempt to eke out a little extra living by keeping pigs, poultry, or other animals, or even by storing pig wash for sale. These matters we do deal with, but they are constantly recurring. There is no doubt, however, but that on the whole our condition is decidedly improving. There is an immense amount of new building, usually of a very fair type, and as a result many of the worse classes of dwellings are being deserted and happily falling into ruin.

I wish very much that in the better class of these new houses no pan closets were allowed, but that in suitable situations either ordinary or waste water closets were enforced. It seems to me that a just and ready method of securing this result would be in all houses above a certain rental or rateable value to make a charge a little above nominal for the removal of pans, this would really be only consistent with the charge at present made for water closets, and would encourage landlords to adopt the waste water system, which would involve no permanent cost beyond the very rare accidents to which all such contrivances are liable. I only suggest that such a charge or rate should

be imposed on houses above a certain value, because as I have already stated, there is a class of tenant who could not be trusted with any contrivance requiring the least care.

The report and the work of the Nuisance Department is given in the Annual Report of the Health Committee.

Unwholesome Food.—The following articles have been condemned and destroyed as unfit for food. 7 carcases of beef; 4 calves; 3 pigs; 1 sheep; 512 lbs. of beef; and 668 lbs. of pork.

Statistical Summary, 1894

	East Sub-District.	West Sub-District.	Borough.
Area—Acres	828	2,697	3,525
Population*	39,177	45,961	85,036
Density—No. of persons per acre	47·3	17·0	24·1
Inhabited Houses			17,800
Rateable Value—Total exclusive of Government Property			£323,410 10s. 0d.
Marriages			No. 740 Rate 8·7

	East Sub-District.		West Sub-District.		Borough.	
	No.	Rate	No.	Rate	No.	Rate.
Births	1,487	38 0	1,402	30·6	2,889	34·0
Deaths	975	24·9	744	16·2	1,719	20·2
Zymotic Deaths	193	4·9	121	2·6	314	3·7
Infantile Mortality Deaths under 1 year per 1000 births	185		148		167	

*Estimated to the middle of 1894, the Borough is not quite the sum of the Sub-Districts being estimated separately.

Index of Tables.

(See also Explanatory Remarks on the Tables on pages 46—47.)

TABLE No. 1.

Cases of Infectious Disease heard of in 1894.

		East Sub-District, Population 39,177					West Sub-District, Population 45,961.					Borough Population 85,036.					Totals.			Rate per 10,000 of Population.		
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year	East Sub-District	West Sub-District	Borough	East Sub-District	West Sub-District	Borough
Small Pox ...	Under 5 years ...	...	...	...	1	1	...	1	1	...	2	...	1	1	1	3	45	22	67	11·4	4·7	7·8
	5 yrs. & upwards	...	12	16	16	44	...	10	7	3	20	...	22	23	19	64						
Measles ...	Under 5 years ...	162	87	4	2	255	141	73	2	2	218	303	160	6	4	473	430	413	843	109·7	89·8	99·1
	5 yrs. & upwards	122	47	6	...	175	105	87	3	...	195	227	134	9	...	370						
Scarlet Fever	Under 5 years ...	31	54	66	68	219	26	59	42	35	162	57	113	108	103	381	600	496	1096	153·1	107·9	128·8
	5 yrs. & upwards	71	106	95	109	381	51	66	90	127	334	122	172	185	236	715						
Diphtheria ...	Under 5 years ..	1	5	6	3	15	1	6	6	3	16	2	11	12	6	31	36	46	81	9·1	10·0	9·5
	5 yrs. & upwards	7	3	5	6	21	2	2	16	10	30	9	5	21	16	51						
Typhoid Fever	Under 5 years ...	...	...	...	1	1	1	2	2	1	6	1	2	2	2	7	27	54	81	6·8	11·7	9·5
	5 yrs. & upwards	5	3	9	9	26	11	11	16	10	48	16	14	25	19	74						

TABLE No. 2.

WEEKLY RETURNS under the Infectious Diseases Notification Act, and prevalence of certain other diseases.

A few cases x Prevalent xx Very Prevalent xxx

1894. Week ending		Small Pox	Scarlet Fever	Diphtheria	Typhoid Fever	Puerperal Fever	Measles	Whooping Cough	Pneumonia	Influenza
January	6th	...	13	2	1	...	xx	...	xx	xx
,,	13th .	...	9	2	1	...	xx	...	xx	xx
,,	20th .	...	24	...	..	...	xx	...	xx	xxx
,,	27th...	...	8	..	...	...	xx	...	xx	xxx
February	3rd...	...	12	...	4	...	xx	...	x	xx
,,	10th ..	..	15	...	1	...	xx	.	x	x
,,	17th .	...	17	...	1	...	xx	...	x	x
,,	24th...	...	12	...	...	...	xx	...	x	x
March	3rd .	...	15	4	...	1	xx	x	x	x
,,	10th ..	...	14	2	1	..	xx	x	x	...
,,	17th .	...	13	2	1	...	xx	x	x	...
,,	24th...	...	11	1	6	...	xx	x	x	...
,,	31st...	...	18	...	5	...	xx	x	x	x
April	7th...	...	14	1	4	...	xx	x	xx	x
,,	14th .	...	15	1	2	...	xx	x	x	...
,,	21st...	1	19	3	2	...	xx	x	x	...
,,	28th...	4	24	2	1	..	xx	x	x	x
May	5th...	3	20	...	3	...	xx	x	xx	x
,,	12th..	1	26	2	2	...	xxx	x	x	x
,,	19th...	1	16	2	1	...	xx	xx	x	x
,,	26th..	2	19	1	...	...	xx	x	x	x
June	2nd...	2	21	1	...	..	xx	x	x	x
,,	9th...	5	25	1	..	...	xx	x	x	.
,,	16th...	1	29	1	...	.	x	x	x	...
,,	23rd..	1	31	1	2	...	x	x	x	..
,,	30th..	1	24	2	2	..	x	x	x	...
July	7th .	1	27	1	3	...	x	x	x	...
,,	14th...	...	16	3	43	...	x	xx	x	..
,,	21st...	4	21	6	4	...	x	x	x	..
,,	28th...	1	14	1	6	1	x	x	x	...
August	4th...	3	32	..	...	...	x	x	x	.
,,	11th ..	3	19	3	3	...	x	x	x	...
,,	18th...	...	22	1	3	..	x	x	x	...
,,	25th...	6	19	1	3	..	x	x	x	...
September	1st...	3	41	3	2	...	x	x	x	..
,,	8th..	1	19	3	3	...	...	x	x	...
,,	15th...	1	26	3	...	...	...	x	x	...
,,	22nd...	1	12	5	1	...	..	x	x	...
,,	29th...	2	27	3	2	...	..	x	x	..
October	6th..	3	31	...	3	...	..	x	x	...
,,	13th...	1	39	...	...	...	...	x	x	...
,,	20th...	2	36	1	1	...	...	x	x	..
,,	27th...	...	28	2	...	...	...	x	x	...
November	3rd .	2	30	4	4	...	...	x	x	...
,,	10th...	1	36	4	3	...	...	x	x	...
,,	17th .	...	24	...	3	...	...	x	x	...
,,	24th..	...	29	5	...	...	...	x	x	x
December	1st...	7	27	3	2	...	...	x	x	x
,,	8th .	1	30	2	...	...	...	x	x	x
,,	15th...	2	22	1	1	..	...	x	x	x
,,	22nd .	1	19	..	1	1	...	x	xx	x
,,	29th...	...	16	...	3	...	...	x	xx	x
YEAR ..		68	1126	86	95	3				

Tables 1 and 2 do not tally; 1 including cases not reported by doctors, and 2 including cases which ultimately proved incorrect.

TABLE 3.

Weekly Meteorological Report, from observations taken at 9 a.m. daily.

Week ending	Barometer Reduced to 32° and Sea Level.		Humidity.	Temperature.					Rain.	Wind.		Death Rate per 1,000 per annum.
	Mean.	Range.		Max.	Min.	Mean.	Earth. 1ft.	Earth. 4ft.		Prevailing Directions.	Total in Week.	
1894.	in.	in.	0-100	°	°	°	°	°	in.		Mls.	
January 6th ..	30·226	·927	86	42·1	7·3	25·8	37·5	45·1	·16	NE, E, E	1504	17·7
,, 13th .	29·787	·357	94	53·9	12·0	36·9	37·2	44·0	·27	SW	1984	22·0
,, 20th ..	29·673	·537	88	50·8	32·8	42·2	41·7	43·8	·60	SW	1921	22·7
,, 27th...	29·753	·522	82	50·1	22·0	37·5	39·9	44·2	·35	SW, SW, NW	2093	18·4
February 3rd...	29·874	·766	82	51 9	27·7	38·7	39·7	44·0	·28	NW, W, SW	2125	17·7
,, 10th...	30·021	·679	86	55·8	33·5	43·3	41·9	43·9	·15	SW	2735	17·1
,, 17th...	29·858	·722	86	52·1	29·6	39·0	41·3	44·3	1·60	NW, SW	1936	25·1
,, 24th...	30·211	·900	88	45 7	18·7	30·9	37·1	43·9	·32	SE, SW	1113	28·8
March 3rd...	29·802	·518	83	54·6	28·8	41·5	40·2	43·2	·49	SW	2325	31·9
,, 10th...	29·749	·782	83	50·1	29·8	39·9	40 9	43·4	·36	SW	2430	22·0
,, 17th...	29·581	1·058	79	50·1	24·2	39 3	41·9	43·7	·46	NW, W	1535	19·0
,, 24th...	30·326	·207	89	56 3	25·0	40·9	42·6	44·0	—	SE	882	20·2
,, 31st ..	30·058	·525	74	65·0	31·5	46·4	43·9	44·3	·19	SE	967	19·0
April 7th ..	29·989	·369	81	65·3	34·2	46·6	46·8	45·1	·03	E, NE	1476	19 0
,, 14th...	29·843	·358	83	69·8	37·5	49·2	48·8	46·1	·75	SE, SW	1291	29·4
,, 21st...	29·775	·770	86	60·8	30·5	45·8	49·2	46·9	·25	SW, SE	1163	24·5
,, 28th...	29·679	·346	80	58·2	31·5	45·1	48·2	47·3	·57	SW	1405	23·3
May 5th...	30·031	·530	77	62·0	32·9	45.4	50·9	47·7	·33	NE, N, NW	1463	31·2
,, 12th ..	29·795	·299	80	58·3	38·1	46·5	51·0	48·4	1·17	SW	1637	22·0
,, 19th...	30·076	·423	81	63·8	35·1	47·4	52·7	48·9	·62	SE, NE	1697	20·2
,, 26th...	30 096	·490	65	64·3	25·7	41·6	51·5	49·4	·29	NE	1354	20·8
June 2nd...	29 693	·286	80	60·2	32·2	44·9	51·9	49·5	·72	SW	1004	30·0
,, 9th...	29·831	·236	83	66·2	36·8	51·0	54·8	49·9	1·50	SW, NE	1108	14·1
,, 16th...	29·962	·383	77	69·0	40·5	51·8	56·7	50·8	·87	N. NW	1212	22·0
,, 23rd...	29·964	·384	74	70·3	35·9	53·4	57·9	51·7	·28	SW. W	1283	17·1
,, 30th...	30·222	·478	73	80·4	46·3	58·5	60·6	52·5	—	E	1302	15·3
July 7th...	30·085	·332	64	82·4	46·3	60·2	63·6	54·0	·11	SE, W	1304	13·4
,, 14th ..	29·605	·665	77	71·0	45·3	55·5	61·0	54·9	·55	SW, NW	950	15·3
,, 21st...	29·762	·216	85	72·0	47·2	55·1	59·9	55·3	1·14	NW, SW	1247	18·4
,, 28th...	29 925	·234	88	74·0	46·9	57·1	61·1	55·4	1·52	NE, SE	961	21·4
August 4th ..	29·795	·522	84	76·9	45·0	58·3	61·9	55·7	·47	SW	1232	15·3
,, 11th...	29·829	·378	81	67·0	42·0	54·6	60 2	56·0	·43	SW, NW	1202	21·4
,, 18th...	29·823	·623	82	67·2	44·5	54·4	59·8	56·0	·33	W, NW	1568	20·8
,, 25th...	29·920	·354	85	70·2	42·8	54·4	58·1	55·9	·84	W, E, N	1329	15·9
September 1st...	30·118	·333	90	71·8	43·5	57·3	59·2	55·8	—	N, NW	448	17·7
,, 8th..	30·035	·216	83	67·6	36·2	50·3	56·4	55·9	·20	NW, NE	895	22·0
,, 15th...	30·353	·209	91	66·3	36·0	51·2	56·6	55·4	—	NE	707	20·2
,, 22nd...	30 146	·464	90	62·0	43·0	51·2	55·9	55·0	·28	E, NE	1051	20·2
,, 29th...	29·995	·583	96	62·7	29·7	48·4	54·3	54 5	·86	E	837	19·0
October 6th...	30·293	·461	95	57·5	30·4	44·8	51·4	53·8	·13	NE	784	20·2
,, 13th..	30·132	·309	99	61·1	42·0	51·4	53·4	53 0	·41	SW, NE	593	15·3
,, 20th .	29·950	·644	90	53·0	32·0	40·6	50·2	52·8	·08	NE	827	14·1
,, 27th .	29·442	·928	88	58·5	20·0	44·4	47·2	51·8	1·56	SE, SW, SW	1767	15·9
November 3rd ..	29·708	·365	91	62·1	36·1	48·6	49·1	50·9	·89	SW. SE	1857	17 7
,, 10th...	29·734	·506	89	57·1	37·1	46·6	48·3	50·8	·52	SW	1517	19·0
,, 17th ..	29·454	·920	93	52·8	35·2	42·2	45·3	50·2	1·75	SW	1726	21·4
,, 24th .	30 209	·312	93	53·1	33·6	43·4	45·1	49·2	·18	SW	1224	15·3
December 1st...	30·385	·236	87	49·3	25·4	38·0	43·6	48·7	—	E, N	733	15·9
,, 8th...	29·962	·640	95	46·0	21·3	35·1	40·9	47·8	·13	E, SW	923	21·4
,, 15th...	29·995	·169	91	52·2	28·5	42 8	43·2	46·9	·64	SW	1866	23·3
,, 22nd .	29 727	·791	84	51·2	27·7	40·7	42·7	46·9	·68	SW, NW	2253	19·6
,, 29th...	30·212	1·263	87	49·4	27·7	40·1	42·1	46·4	·85	W, NW	1614	20·8

TABLE No. 4.—Weekly Returns of Deaths in the Sub-Districts.

EAST SUB-DISTRICT

Week ending		January.				February				March					April				May.				June				July				August				September.				October				November				December				1894
		6	13	20	17	3	10	17	24	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15	22	29	Totals
Measles	Under 5 yrs	..	1	2	1	1	3	3	6	5	1	3	..	1	1	4	2	4	1	..	1	..	2	1	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	43
	5 & upwds.	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	.	..	..	..	..	..	..	..	..	..	1
Scarlet Fever	Under 5 yrs.	..	..	..	..	..	..	..	..	1	..	..	1	..	..	2	1	1	1	1	.	..	1	1	1	..	2	1	2	..	..	1	3	..	1	.	1	..	..	1	2	..	1	..	1	1	..	..	1	2	..	1	..	.	32
	5 & upwds.	...	..	..	..	..	..	..	.	1	..	..	..	..	..	..	..	..	1	..	.	..	..	..	..	3	..	..	..	..	..	.	..	.	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	7
Whooping Cough	Under 5 yrs.	.	..	..	..	1	..	..		2	1	..	..	.	..	1		..	2	..		1	1	..	1	..	..	2	..	..	1	..	..	..	1	..	1	1	1	.	..	..	..	..	..	..	..	..	..	..	1	18
	5 & upwds.	..	..	..	..	..	..	..	..	.	..	..	..	.	..	.	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	Under 5 yrs.	1	..	..	..	..	..	..	..	..	1	..	.	..	..		1	1	..	1	..	..	..	..	..	1	..	..	1	..	1	..	1	1	..	..	..	..	1	..	..	..	1	1	.	..	..	..	..	..	..	13
	5 & upwds.	..	..	..	.	..	..	.	..		1	..	..	1	..	..	..	..	..	..	1	..		.	..	..	..	..	..		..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	1	..	..	..	7
Typhoid Fever	Under 5 yrs.	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	.	.	..	.	..	..		..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	5 & upwds.	..	..	..	..	..	..	..	.	..	..	..	.	..	..	..	1	..	..	..	..		..	..	.	..	.	..	..	1	..		..	..	1	1	..	..	..		..	1	..	..	1	1	1	2	..	..	..	.	10
Diarrhœal Diseases	Under 5 yrs.	..	..	..		.	..	..	..	3	..	..	1	..	..	.	.	1	2	1	.	1	..	1		1	..	..	3	..	1	..	2	5	1	5	7	4	5	2	4	1	..	2	1	..	.	1	..	2		..	..	57
	5 & upwds.	..	..	..		..	..	..	..	..	..	..	..	..	.	.	..	..	.	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	1	..	..	..	..	..	..	..	..	1
Phthisis.	Under 5 yrs.	1	..	..	3	..		..	1	1	..	1	..	..	..	..	..	..	2	..	..	1	..	..	..	..	.	..	..	1	1	1	1	2	..	..	1	2	..		1	..	..	.	..	..	..	..	..	..	..	..	21
	5 & upwds.	1	..	2	2	2	1	2	3	..	2	..	1	..	..		2	1	2	1	1	2	...	1	2	..	..	..	..	2	2	2	..	1	3	2	2	..	..	3	1	1	3	1	..	2	2	2	1	..		2	2	62
Respiratory Diseases	Under 5 yrs.	2	3	3	..	3	3	2	3	2	3	3	3	3	5	2	4	1	2	3	2	2	1	2	3	4	1	..	..	3	1		4	1	..	1	..	1	2	1	.	..	1	4	2	4	3	1	..	10	.	2	..	106
	5 & upwds.	2	5	5	4	5	4	3	3	3	3	2	6	3	2	7	4	1	6	1	6	4	4	3	2	1	2	2	..	1	1	1	..	..	2	3	3	1	1	1	3	3	2	2	2	2	4	3	1	4	3	3	1	141
All Causes	Under 5 yrs.	8	8	7	13	8	6	8	13	22	7	12	10	5	11	15	16	11	12	9	6	11	9	7	9	12	7	6	10	6	8	4	15	15	5	7	13	11	12	7	8	4	6	9	11	7	7	7	3	16	7	4	7	475
	60 & upwds.	5	6	1	2	4	4	5	4	6	3	3	4	4	2	12	8	3	5	2	4	3	12	3	8	4	2	1	2	4	5	2	7	3	3	2	3	2	4	4	5	5	1	2	2	2	4	4	3	5	3	6	4	207
	All Ages	20	19	19	20	17	16	19	25	34	21	18	22	14	17	30	31	21	30	18	20	21	27	15	24	20	10	10	16	16	18	15	25	21	12	17	21	16	21	15	16	12	11	14	17	15	17	17	14	26	14	16	16	975

WEST SUB-DISTRICT

Measles	Under 5 yrs.	1	2	..	1	2	3	2	3	2	..	..	1	1	1	..	3	2	1	...	..	2	1	..	..	..	..	..	..	..		..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28
	5 & upwds.	..	..	..	..	.	..	.	..	..	..	..	..	..	..	..		..	1	..	.	.	..	..	..	..	..	..	..	.	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Scarlet Fever	Under 5 yrs.	1	..	..	1	..	..	1	..	..	..	..	1	..	..	..	..	..	1	.	..	..	..	..	2	1	..	2	..	..	..	..	..	..	..	..	1	1	..	1	1	1	..	...	..	..	..	..	..	..	..	..	15
	5 & upwds.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	.	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	..	1
Whooping Cough	Under 5 yrs.	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..		3	1	..	..		..	..	..	..	2	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	10
	5 & upwds.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	.	.	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	Under 5 yrs.	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	.	..	..	..	..	2	..	..	..	1	..	..	..	..	..	..		..	..		1	..	..	1		..	..	..	1	.		..	8
	5 & upwds.	..	..	..	..	..	..	..	..		..	..	..	..	..	.	.	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	1	..	..	..	2	..	..	..	.	.		.	5
Typhoid Fever	Under 5 yrs.	..		..	.	..	..	..	..	..	..	..	..	..	.	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	...	1	..	..	..	..	.	..	..	..	..	1	..	..	..	..	1	..	..	2
	5 & upwds.	..	..	..	..	..	..	..	.	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	.	..	..	1	..	..	..	1	.	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Diarrhœal Diseases	Under 5 yrs.	..	..	..	..	..	..	..	..	..	..	..	..	1		..	..	..	..	..	..	..	..	1	.	..	1	1	1	1	2	.	2	5	4	1	3	4	1	3	..	..	4	..	1	1	1	..	..	..	..	..	..	38
	5 & upwds.	..	..	..	..	..	.	..	..	.	..	..	..	1	..	.	..	..	..	..	..	..	..	..	.	..	..	1	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	.	..	..	..	3
Phthisis	Under 5 yrs.	.	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	.		..	..	..	.	..	..	1	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	5 & upwds.	..	5	2	..	2	1	..	1	..	2	..	1	..	1	1	3	..	1	1	2	1	1	..	1	..	..	..	..	..	1	..	..	1	1	..	2	2	..	.	..	2	3	3	2	1	..	..	..	..	4	1	..	49
Respiratory Diseases	Under 5 yrs.	2	1	4	..	1	1	3	1	2	2	..	..	1	3	1	..	1	3	..	3	2		..	..	..	..	..	..	1	1	..	..	..	.	..		1	..		..	1	..		1	1	4	1	2	2	4	1	3	55
	5 & upwds.	1	..	4	.	..	1	1	4	3	..	3	1	..	..	2	2	2	3	6	1	1	4	2	1	1	1	2	1	2	3	2	1	..	1	3	2	3	2	2	..	..	..	2	..	1	3	1	3	..	2	3	2	85
All Causes	Under 5 yrs.	6	7	9	5	5	5	10	7	9	6	4	4	7	7	5	3	8	11	6	6	6	7	3	5	2	4	6	5	4	6	3	3	9	10	3	6	8	6	9	7	5	6	5	5	8	12	3	4	6	8	5	10	319
	60 & upwds.	3	.	6	3	3	3	4	8	6	3	5	2	5	4	6	4	1	4	5	1	3	6	3	3	3	3	..	3	2	6	3	6	..		6	2	4	3	5	5	3	2	4	4	2	4	4	5	2	4	3	3	182
	All Ages.	9	17	19	10	12	12	22	22	18	15	13	11	17	14	18	9	17	21	18	14	13	22	8	12	8	15	12	9	14	17	10	10	15	14	12	15	17	12	16	17	13	12	12	12	16	18	8	12	9	24	16	18	744

TABLE No. 5.—Quarterly Births and Deaths during 1894

	Quarters.	East Sub-District, 39,177.					West Sub-District, 45,961.					Borough, 85,036.				
		1st	2nd	3rd	4th	Year.	1st	2nd	3rd	4th	Year.	1st	2nd	3rd	4th	Year.
BIRTHS.	Males	197	195	201	200	793	180	213	182	173	748	377	408	383	373	1541
	Females	179	167	148	200	694	167	173	169	145	654	346	340	317	345	1348
	Total	376	362	349	400	1487	347	386	351	318	1402	723	748	700	718	2889
	Rate	38·5	37·0	35·7	40·9	38·0	30·3	33·7	30·6	27·7	30·6	34·1	35·3	33·0	33·8	34·0
DEATHS	Males	153	160	128	91	532	112	106	96	102	416	265	266	224	193	948
	Females	110	124	95	114	443	85	83	75	85	328	195	207	170	199	771
	Total	263	284	223	205	975	197	189	171	187	744	460	473	394	392	1719
	Rate	26·9	29·0	22·8	21·0	24·9	17·2	16·5	14·9	16·3	16·2	21·7	22·3	18·5	18·5	20·2
	60 years and upwards ...	51	68	42	46	207	51	46	40	45	182	102	114	82	91	389
	Under 1 year	64	71	77	64	276	51	44	52	61	208	115	115	129	125	484
	1—5 years	63	62	42	32	199	33	29	26	23	111	96	91	68	55	310
	Zymotics	50	57	56	30	193	31	29	42	19	121	81	86	98	49	314
	Rate	5·1	5·8	5·7	3·0	4·9	2·7	2·5	3·6	1·6	2·6	3·8	4·0	4·6	2·3	3·7
	Small Pox	...	3	1	...	4	...	...	1	...	1	...	3	2	...	5
	Measles	28	16	...	...	44	18	11	...	...	29	46	27	...	...	73
	Scarlet Fever	3	15	13	8	39	4	4	6	2	16	7	19	19	10	55
	Whooping Cough	4	6	7	1	18	1	4	4	1	10	5	10	11	2	28
	Diphtheria	4	5	6	5	20	1	3	4	5	13	5	8	10	10	33
	Typhoid Fever	...	1	3	6	10	...	1	3	3	7	...	2	6	9	17
	Influenza	6	7	...	...	13	3	4	...	...	7	9	11	...	...	20
	Diarrhœa	3	1	21	8	33	1	...	23	5	29	4	1	44	13	62
	Phthisis	23	15	26	19	83	14	12	8	16	50	37	27	34	35	133
	Respiratory Diseases ...	81	76	30	60	247	36	40	27	37	140	117	116	57	97	387
	Uncertified	...	1	1	1	3	3	2	2	1	8	3	3	3	2	11
	Inquests	19	15	17	20	71	18	9	8	12	47	37	24	25	32	118
Deaths in Public Institutions in the East Sub-District.	Hospital											43	42	50	46	181
	Workhouse											50	41	29	38	158
	From Outside the Borough											37	23	30	34	124
	From the West Sub-District											17	16	28	15	76
	No Home											6	4	1	4	15

TABLE No. 6.

DEATHS in the Sub-Districts during the year 1894, classified according to Ages and Diseases.

	EAST SUB-DISTRICT.							WEST SUB-DISTRICT.						
	AGES						TOTALS.	AGES						TOTALS.
	0 to 1	1 to 5	5 to 25	25 to 60	60 to 75	75 and upwards.		0 to 1	1 to 5	5 to 25	25 to 60	60 to 75	75 and upwards.	
I.—Zymotic Diseases ...	52	89	27	19	6	..	193	35	61	15	6	4	..	121
III.—Dietic Diseases ...	1	..	...	.	...	...	1	...	...	..	1	...	...	1
IV.—Constitutional Diseases	37	27	16	56	14	...	150	20	13	26	55	22	2	138
V.—Developmental Diseases	26	..	...	...	27	38	91	27	..	..	1	15	30	73
VI.—Local Diseases	109	76	33	114	94	18	444	77	31	29	96	77	25	335
VII.—Violence	...	2	9	9	3	1	24	...	2	4	6	3	1	16
VIII.—Ill-Defined, Not Specified Causes	51	5	3	7	6	...	72	49	4	2	2	2	1	60
Totals ...	276	199	88	205	150	57	975	208	111	76	167	123	59	744
I—Zymotic Diseases.														
1—Miasmatic.														
Smallpox { Vaccinated ...	...	...	1	2		...	3	...	..	..	..		..	.
Smallpox { Unvaccinated ...	...	..	...	1	...	...	1	...	1	..	...	...		1
Measles	11	32	1	...	...	...	44	7	21	1	..	..		29
Scarlet Fever	3	29	7	...	...	...	39	2	13	1	...	...	...	16
Whooping Cough	9	9	...	..	..	...	18	5	5	...	..	..	...	10
Diphtheria	...	13	7	...	...	...	20	..	8	5	...	...		13
Simple Continued Fever	...	...	...	..	...	..	...	..	1	..	..	..	...	1
Typhoid Fever	..	...	7	3	...	..	10	...	2	4	1	..	...	7
Influenza	1	...	2	7	3	...	13	...	...	1	3	3	...	7
2—Diarrhœal.														
Diarrhœa	25	6	1	...	1	...	33	17	10	1	...	1	...	29
5—Venereal.														
Syphilis	1	.	...	2	...	..	3	1	...	..	...	..	...	1
Stricture of Urethra	...	...	...	1	...	..	1	...	...	...	1	..	...	1
6—Septic.														
Erysipelas	2	...	...	1	1	...	4	3	...	...	.	...	..	3
Pyæmia	..	..	1	1	1	...	3	...	...	2	...	...	...	2
Puerperal Fever	...	...	...	1	...	..	1	...	...	..	1	..	..	1
III—Dietic Diseases.														
Chronic Alcoholism	...	...	...	...	...	...	...	...	...	...	1	...	...	1
Deficient, or Improper Food ...	1	...	..	...	...	..	1	...	..	...	...	..	...	...
IV—Constitutional Diseases.														
Rheumatic Fever	..	...	2	1	...	..	3	.	...	1	1	...	...	2
Rheumatism	...	...	..	1	...	...	1	...	..	...	...	1	...	1
Gout	...	...	...	...	...	...	...	...	...	..	1	...	...	1
Malignant Disease	...	...	..	4	8	...	12	...	...	...	11	14	1	26
Tabes Mesenterica	11	5	1	...	...	..	17	3	6	...	1	..	...	10
Tubercular Meningitis	2	4	1	...	..	...	7	3	4	1	1	..	...	9

TABLE No. 6—Continued.

	EAST SUB-DISTRICT. AGES							WEST SUB-DISTRICT. AGES						
	0 to 1	1 to 5	5 to 25	25 to 60	60 to 75	75 and upwards.	TOTALS.	0 to 1	1 to 5	5 to 25	25 to 60	60 to 75	75 and upwards.	TOTALS.
Phthisis	8	13	10	48	4	...	83	...	1	15	32	2	..	50
Other Tuberculoses	..	...	1	1	1	...	3	1	...	4	3	...	...	8
Purpura	..	..	...	...	1	..	1	...	1	1	..		..	2
Anæmia	...	...	1	1	...	...	2	1	...	2	..	...	...	3
Diabetes Mellitus	...	...	..	..	...	..	...	...	...	2	5	4	1	12
Others	16	5	..	..	..	...	21	12	1	...	...	1	...	14
V—Developmental Diseases.														
Premature Birth	17	...	...	...	...	...	17	26	...	...	...	..	...	26
Atelectasis	5	...	...	..	..	...	5	...	...	...	..	..	...	..
Congenital Malformations	4	..	...	...	..	...	4	1	...	...	...	...	..	1
Old Age	...	...	..	..	27	38	65	...	...	...	1	15	30	46
VI—Local Diseases.														
1—Nervous System.														
Meningitis	9	6	2	2	1	...	20	5	1	6	1	...	...	13
Apoplexy, Hemiplegia	...	...	...	2	10	1	13	...	...	...	13	11	4	28
Epilepsy	..	1	2	1	..	...	4	...	...	..	.	1	...	1
Convulsions	14	...	...	...	...	...	14	14	3	1	...	...	...	18
Diseases of Spinal Cord	...	...	...	2	...	..	2	...	...	...	3	...	..	3
Others	...	1	1	3	7	4	16	...	1	1	3	3	2	10
2—Organs of Special Sense.														
Otitis	...	2	...	..	...	...	2	.	...	1	..	...	...	1
3—Circulatory System.														
Pericarditis	...	...	..	...	..	..	...	...	...	1	...	..	..	1
Diseases of Heart	...	...	6	15	16	1	38	...	...	6	18	15	4	43
Aneurism	...	...	...	...	...	...	..	...	...	...	1	...	...	1
Others	...	...	...	...	1	...	1	...	..	...	...	...	1	1
4—Respiratory System.														
Croup, Laryngitis	1	9	...	...	...	...	10	1	3	1	. .	...	...	5
Emphysema Asthma	...	..	..	...	4	..	4	...	...	...	1	...	..	1
Bronchitis	29	21	2	34	34	5	125	20	11	...	16	26	9	82
Pneumonia	21	25	8	28	15	3	100	13	7	6	16	4	1	47
Pleurisy	...	..	2	2	1	1	6	...	...	...	1	2	...	3
Others	...	...	1	...	1	...	2	...	..	...	1	...	1	2
5—Digestive System.														
Dentition	9	1	...	..	...	...	10	10	1	...	..	...	...	11
Sore Throat	...	...	...	...	...	...	...	3	1	...	..	...	...	4
Diseases of Stomach	3	2	1	2	...	...	8	2	1	...	1	2	1	7
Enteritis	18	5	1	...	...	1	25	7	1	...	...	1	...	9
Obstructive Diseases of Intestine	1	...	..	2	...	2	5	...	...	...	3	.	1	4
Peritonitis	...	...	...	1	...	...	1	...	...	1	1	..	..	2
Cirrhosis of Liver	...	...	...	2	1	...	3	..	...	...	2	3	..	5
Jaundice and other Diseases of the Liver	1	...	...	2	2	...	5	...	..	...	2	3	..	5
Others	2	...	1	...	...	...	3	..	...	...	...	...	..	..

TABLE No. 6—Continued.

	EAST SUB-DISTRICT.							WEST SUB-DISTRICT.						
	AGES							AGES						
	0 to 1	1 to 5	5 to 25	25 to 60	60 to 75	75 and upwards.	TOTALS.	0 to 1	1 to 5	5 to 25	25 to 60	60 to 75	75 and upwards.	TOTALS.
8.—Urinary System.														
Nephritis	..	1	1	14	...	...	16	...	1	4	7	3	...	15
Bladder or Prostate	..	...	...	...	...	...	..	...	...	1	1	1	...	3
Others	...	...	.	...	...	..	...	...	...	...	1	...	1	2
9—Reproductive System.														
A. *Of Organs of Generation.*														
Female Organs	...	...	...	..	...	..	...	...	...	...	2	...	..	2
B. *Of Parturition.*														
Flooding	...	...	1	1	...	...	2	...	..	...	...	...	..	...
Others	...	...	1	...	...	...	1	...	...	...	2	...	..	2
10—Bones and Joints.														
Caries, Necrosis	...	...	2	...	..	...	2	...	..	...	..	1	..	1
Arthritis, Periostitis	...	...	1	...	1	...	2	.	...	...	...	..	...	...
11—Integumentary System														
Impetigo	1	...	...	...	...	...	1	...	...	...	...	...	...	..
Cellulitis	...	..	...	..	...	..	..	1	...	...	...	1	...	2
Others	...	2	...	.	1	..	3	1	...	..	...	...	...	1
VII—Violence.														
1—Accident or Negligence.														
Fractures and Contusions	..	3	1	2	1	7	..	...	1	4	1	...	7
Burn, Scald	..	2	1	1	..	...	4	...	2	1	...	.	...	3
Drowning	...	.	4	.	.	...	4	...	...	..	1	..	...	1
Suffocation	...	..	.	...	...	..	..	..	..	1	1	...	..	2
Otherwise	...	...		...	...	.	...	..	..	...	...	...	1	1
2—Homicide.														
Manslaughter	...	...	...	...	...	.	...	.	...	1	...	...	...	1
3—Suicide.														
Cut, Stab	...	..	1	1	...	2	...	...	...	...	..	..	..
Poison	...	...	1	...	..	...	1	...	...	...	...	...	..	...
Drowning	...	...	...	2	..	...	2	...	.	...	...	...	...	...
Hanging	...	..	...	2	...	...	2	...	...	..	...	1	...	1
Otherwise	...	..	...	2	..	...	2	...	..	...	...	..	...	...
VIII—Ill-defined and not Specified Causes.														
Debility, Atrophy, Inanition	39	..	...	1	...	..	40	48	1	1	...	...	...	50
Mortification	...	...	...	..	...	..	...	...	1	..	...	1	1	3
Tumour	...	...	...	..	1	...	1	...	...	...	1	..	...	1
Abscess	...	...	1	1	1	...	3	...	1	...	...	...	...	1
Causes not Specified	12	5	2	5	4	...	28	1	1	1	1	1	...	5

TABLE No. 7.

TABLE OF DEATHS during the year 1894, in the Urban Sanitary District of WOLVERHAMPTON; classified according to DISEASES, AGES, AND LOCALITIES, *and the proportion of Deaths which occurred in public Institutions.*

		MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.													
		At all Ages.	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards.		1	2	3	6	9	11	12	13	14	15	17	18	19	20	21	22
													FEVERS												
(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	Smallpox	Scarlatina	Diphtheria	Enteric or Typhoid	Puerperal	Erysipelas	Measles	Whooping Cough	Diarrhœa and Dysentery	Rheumatic Fever	Phthisis	Bronchitis, Pneumonia, & Pleurisy	Heart Disease	Injuries	All other Diseases	TOTAL
East Sub-District		975	276	199	52	36	205	207	Under 5 yrs	...	32	13	...	...	2	43	18	31	...	21	96	...	2	217	475
									5 & upwards	4	7	7	10	1	2	1	...	2	3	62	135	38	22	206	500
West Sub-District		744	208	111	37	39	167	182	Under 5 yrs	1	15	8	2	...	3	28	10	27	...	1	51	...	2	171	319
									5 & upwards	...	1	5	5	1	...	1	...	2	2	49	81	43	14	221	425
TOTAL IN BOROUGH		1719	484	310	89	75	372	389	Under 5 yrs	1	47	21	2	...	5	71	28	58	...	22	147	...	4	388	794
									5 & upwards	4	8	12	15	2	2	2	...	4	5	111	216	81	36	427	925
Deaths in Institutions in the East Sub-District.	General Hospital	181	6	37	28	18	73	19	Under 5 yrs	...	1	11	...	...	...	3	2	...	...	...	3	...	9	14	43
									5 & upwards	...	1	3	8	...	...	...	...	...	1	7	7	14	23	74	138
	Worknouse	158	4	...	...	1	43	110	Under 5 yrs	...	...	...	...	...	...	...	...	...	...	1	...	...	...	3	4
									5 & upwards	...	...	...	...	...	...	...	...	...	...	14	27	11	2	100	154
	From outside the Borough	124	3	13	6	9	43	50	Under 5 yrs	...	...	2	...	...	...	1	...	...	...	...	...	...	7	6	16
									5 & upwards	...	...	...	1	...	...	...	...	...	...	3	9	11	12	72	108
	From West Sub-District	76	2	4	9	4	31	26	Under 5 yrs	...	1	2	...	...	...	...	...	...	...	...	...	...	...	3	6
									5 & upwards	...	1	...	1	...	...	...	...	...	...	5	8	4	6	45	70

TABLE No. 8.

Comparative Deaths and Death Rates for the past Twenty-two years.

Year.	East Sub-District.				West Sub-District.				Borough.				Estimated Populations.		
	Total.	Rate.	Zymotic.	Rate	Total.	Rate.	Zymotic.	Rate.	Total.	Rate.	Zymotic.	Rate.	East.	West.	Borough.
1873	1,125	29·7	...	...	631	19·8	...	...	1,756	25·1	...	...	38,010	31,841	69,906
1874	1,048	27·6	..	...	627	19·3	...	...	1,675	23·6	...	...	38,087	32,487	70,636
1875	1,155	30·3		...	640	19·3	...	...	1,795	25·2	...	...	38,163	33,140	71,373
*1876	1.099	28·2	...	...	655	19·0	...	..	1,754	23·9	...	...	38,241	33,806	72,118
1877	1,157	30·2	...	...	611	17·7	..	...	1,768	24·3	...	...	38,318	34.485	72,871
1878	1,081	28·2	...	...	644	18·3	...	...	1,725	23·5	...	..	38,396	35,178	73,632
1879	1,093	28·5	...	...	608	17·0	...	...	1,701	22·9	..	..	38,474	35,884	74,402
1880	960	24·9	...	...	629	17·2	...	...	1,589	21·2	...	...	38,552	36,606	75,178
*1881	998	25·4	...	..	650	17·1	...	.	1.648	21·3	...	...	38,620	37,305	75,932
1882	1,056	27·4	...	...	657	17·3	...	...	1,713	22·4	...	...	38,663	37,909	76,596
1883	1,042	27·0	..	...	601	15·6	..	..	1,643	21·3	...	...	38,706	38,522	77,266
1884	1,158 981	29·9 25·4	222	5·7	699 753	17·9 19·3	115	2·9	1,857 1,734	23·9 22·3	337	4·3	38,748	39,146	77,942
*1885	1,012 844	25·6 21·4	102	2·5	658 720	16·2 17·8	74	1·8	1,670 1.564	20·9 19·5	176	2·2	38,791	39,779	78,624
1886	1,125 955	29·0 24·6	182	4·7	697 746	17·3 18·5	156	3·8	1,822 1,701	23·0 21·5	338	4·2	38,834	40,423	79,311
1887	1,133 944	29·2 24·3	122	3·1	659 720	16·1 17·5	102	2·4	1.792 1,664	22·4 20·8	224	2·8	38,876	41,077	80,005
1888	1,005 827	25·8 21·3	95	2·4	707 768	17·0 18·5	121	2·9	1,712 1,595	21·2 19·8	216	2·6	38,919	41,741	80,705
1889	1,065 883	27·4 22·7	104	2·6	674 737	15·9 17·4	102	2·4	1,739 1,620	21·4 19·9	206	2·5	38,962	42,417	81,411
*1890	1,183 977	29·8 24·6	98	2·4	725 795	16·5 18·1	80	1·8	1,908 1,772	22·8 21·2	178	2·1	39,005	43,103	82,124
1891	1,214 1 026	31·1 26·3	120	3·0	822 888	18·8 20·3	122	2·7	2,036 1,914	24·6 23·1	242	2·9	39,048	43,800	82,842
1892	1,117 935	28·6 24·0	125	3·2	724 781	16·3 17·6	95	2·1	1,841 1,716	22·1 20·6	220	2·6	39.091	44,509	83,567
1893	1,260 1,040	32·3 26·6	153	3·9	730 813	16·1 18·0	129	2·8	1,990 1,853	23·6 22·0	282	3·3	39,134	45,229	84,298
1894	1,175 975	30·0 24·9	193	4·9	668 744	14·5 16·2	121	2·6	1,843 1 719	21·7 20·2	314	3·7	39,177	45,961	85,036

* These years contain 53 weeks.

For explanation see remarks at end of the text.

TABLE No. 9.—Eleven Years' Annual Deaths, &c.

	1884	*1885	1886	1887	1888	1889	*1890	1891	1892	1893	1894	A
Small Pox	5	—	—	—	—	—	—	—	—	1	5	0·6
Measles	98	1	111	31	39	40	32	25	41	21	73	43·9
Scarlet Fever	37	46	5	16	17	6	13	14	3	25	55	18·2
Whooping Cough	15	41	22	29	58	48	27	26	80	4	28	35·0
Diphtheria	6	10	10	7	10	7	4	5	4	5	33	6·8
Typhoid Fever	9	4	9	14	11	9	9	15	16	23	17	11·9
Diarrhœa	141	50	149	105	60	84	68	105	55	161	62	97·8
Phthisis and Respiratory... ...	498	503	486	512	560	485	673	668	582	560	520	552·7
60 years and upwards	361	396	367	419	406	406	452	491	400	445	389	414·3
Under 1 year	509	390	490	469	445	479	477	531	482	600	484	487·2
Under 5 years	841	601	835	741	682	778	727	818	757	812	794	759·2
Under 1 year per 1,000 Births ...	189	138	174	175	166	179	174	188	171	206	167	176·0
Total Deaths	1734	1564	1701	1664	1595	1620	1772	1914	1716	1853	1719	1713·3
Rate per 1,000	22·3	19·5	21·5	20·8	19·8	19·9	21·2	23·1	20·6	22·0	20·2	21·07
Zymotics	337	176	338	224	216	206	178	242	220	282	314	241·9
Rate per 1,000	4·3	2·2	4·2	2·8	2·6	2·5	2·1	2·9	2·6	3·3	3·7	2·95
Births	2691	2806	2803	2675	2674	2666	2735	2820	2805	2902	2889	2757·7
Rate per 1,000	34·6	35·1	35·4	33·5	33·2	32·8	32·8	34·1	33·6	34·5	34·0	33·96

* These years contain 53 weeks. **A.**—Annual averages for the ten years preceding 1894.

TABLE No. 9a.—Eleven Years' Quarterly Deaths.

	1884				1885				1886				1887				1888				1889				1890				1891				1892				1893				1894			
Quarters ending	29/3	28/6	27/9	27/12	31/3	27/6	26/9	*2/1	3/4	3/7	2/10	1/1	2/4	2/7	30/9	31/12	31/3	30/6	29/9	29/12	30/3	29/6	28/9	28/12	29/3	28/6	27/9	*31/91	4/4	4/7	3/10	2/1/92	2/4	2/7	1/10	31/12	1/4	1/7	30/9	30/12	31/3	30/6	29/9	29/12
Small Pox ...	3	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	3	2	—
Measles ..	11	66	20	1	1	—	—	—	—	—	8	103	19	4	7	1	9	6	5	19	10	11	11	8	3	10	5	14	5	—	—	20	21	16	3	1	6	—	5	10	46	27	—	—
Scarlet Fever...	6	7	20	4	17	14	9	6	1	3	1	—	2	1	5	8	8	4	4	1	2	—	1	3	4	2	3	4	2	2	2	8	1	—	—	2	1	1	6	17	7	19	19	10
Whooping C....	1	1	3	10	27	7	4	3	2	8	6	6	6	1	7	15	20	14	11	4	4	14	6	24	17	8	—	2	—	—	5	21	47	27	3	3	1	—	1	2	5	10	11	2
Diphtheria ...	3	—	2	1	5	—	1	4	6	3	—	1	—	3	1	3	4	4	1	1	—	2	2	3	3	—	—	1	1	2	1	1	—	3	1	—	—	1	1	3	5	8	10	10
Typhoid Fever.	3	—	1	5	2	1	—	1	3	1	1	4	1	2	5	6	2	5	2	2	1	2	4	2	2	3	1	3	5	2	5	3	1	7	5	3	3	4	9	7	—	2	6	9
Diarrhœa ...	4	8	114	15	4	6	26	14	6	10	98	35	6	4	90	5	4	7	30	19	3	8	56	17	7	3	42	16	5	7	66	27	7	4	31	13	3	11	140	7	4	1	44	13
Phthisis and Respiratory	120	143	82	146	165	114	75	149	159	103	77	147	170	120	75	147	184	137	95	144	165	116	76	128	248	139	109	177	177	204	84	203	241	129	84	128	156	136	98	170	154	143	91	132
60 yrs. and upw.	92	94	78	97	135	73	79	109	127	83	64	93	134	130	66	89	127	98	80	101	130	84	87	105	144	91	80	137	137	168	79	107	143	93	69	95	100	118	91	136	102	114	82	91
Under 1 year...	91	113	185	120	86	106	84	114	106	95	148	141	98	95	172	104	118	103	113	111	103	109	138	129	116	79	147	135	93	120	159	159	143	107	120	112	127	99	232	142	115	115	129	125
Under 5 years	131	228	290	192	166	154	116	165	162	146	221	306	182	135	235	189	191	166	150	175	170	180	212	216	199	136	190	202	140	174	209	295	266	188	160	143	151	133	303	225	211	206	197	180
Total Deaths...	349	457	497	431	466	369	312	417	446	342	382	531	447	394	417	406	478	395	335	387	433	378	386	423	545	365	392	470	417	536	400	561	587	415	340	374	403	389	535	526	460	473	394	392
Rate per 1,000	17·9	23·5	25·5	22·1	23·7	18·8	15·9	19·7	22·5	17·3	19·3	26·8	22·4	19·7	20·9	20·3	23·7	19·6	16·6	19·2	21·3	18·6	19·0	20·8	26·6	17·8	19·1	21·3	20·2	25·9	19·3	27·1	28·1	19·9	16·3	17·9	19·1	18·5	25·4	25·0	21·7	22·3	18·5	18·5
Zymotics ...	37	91	164	45	64	31	45	36	27	32	121	158	39	20	122	43	61	45	56	54	22	42	82	60	44	30	58	46	24	41	88	89	92	59	45	24	19	22	169	72	81	86	98	49
Rate per 1,000	1·9	4·6	8·4	2·3	3·2	1·5	2·2	1·7	1·3	1·6	6·1	7·9	1·9	1·0	6·1	2·1	3·0	2·2	2·7	2·6	1·0	2·0	4·0	2·9	2·1	1·4	2·8	2·0	1·1	1·9	4·2	4·3	4·4	2·8	2·1	1·1	0·9	1·0	8·0	3·4	3·8	4·0	4·6	2·3
Estimated Population	77,942				78,624				79,311				80,005				80,705				81,411				82,124				82,842				83,567				84,298				85,036			

* These Quarters contain 14 weeks.

DEATH RATES, ETC., IN THE 33 GREAT TOWNS IN 1894.

	Population estimated to middle of 1894	Birth Rate.	Corrected Death Rate.	Mortality Figure.	Recorded Death Rates.							Deaths under 1 year to a 1000 Births.
					Principal Zymotic Diseases	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa	
England and Wales ...			16·59	1000								
England and Wales *less* 33 Towns ...			15·54	937								
33 Towns	10,458,442	30·7	19·59	1181	2·44	0·63	0·21	0·38	0·48	0·19	0·51	152
London	4,349,166	30·1	18·93	1141	2·66	0·76	0·22	0·61	0·48	0·15	0·42	143
West Ham	238,184	34·0	17·44	1051	3·19	0·96	0·15	0·80	0·43	0·19	0·45	138
Croydon	111,921	25·0	13·75	829	1·54	0·36	0·07	0·29	0·56	0·06	0·20	121
Brighton	118,715	25·8	16·59	1000	1·21	0·30	0·03	0·22	0·12	0·09	0·45	138
Portsmouth	170,973	27·6	15·49	934	1·95	0·81	0·09	0·19	0·24	0·16	0·44	131
Plymouth	87,931	28·8	17·79	1072	1·59	0·03	0·09	0·06	0·89	0·13	0·33	169
Bristol	226,578	28·2	18·03	1087	2·04	0·50	0·07	0·21	0·78	0·10	0·31	150
Cardiff	148,890	34·4	18·10	1091	1·94	0·07	0·05	0·46	0·83	0·05	0·47	141
Swansea	95,399	32·3	18·61	1122	1·77	0·27	0·24	0·11	0·81	0·13	0·21	163
WOLVERHAMPTON ...	85,036	34·1	21·66	1306	3·23	0·85	0·63	0·41	0·33	0·20	0·75	166
Birmingham	492,301	31·7	20·54	1238	2·50	0·67	0·15	0·15	0·44	0·22	0·52	163
Norwich	105,645	29·8	17·95	1082	1·51	0·21	0·14	0·17	0·36	0·22	0·41	164
Leicester	189,136	31·5	15·90	958	1·94	0·56	0·16	0·07	0·06	0·15	0·94	162
Nottingham	223,584	28·6	18·54	1118	2·33	0·60	0·23	0·08	0·53	0·28	0·60	174
Derby	98,796	29·3	16·56	998	1·62	0·65	0·15	0·05	0·16	0·26	0·35	123
Birkenhead	105,627	30·6	19·85	1197	2·64	0·87	0·11	0·39	0·64	0·16	0·46	143
Liverpool	507,230	35·4	26·46	1595	3·41	0·59	0·45	0·19	0·55	0·59	1·00	179
Bolton	118,303	31·5	21·29	1283	1·82	0·18	0·08	0·08	0·50	0 22	0·76	162
Manchester	520,211	32·0	23·14	1395	2·38	0·43	0·22	0·28	0·55	0·19	0·67	160
Salford	205,828	34·3	23·61	1423	3 25	0·71	0·55	0·31	0·68	0·31	0·68	174
Oldham	138,755	27·2	21·31	1285	1·84	0·40	0·15	0·28	0·41	0·11	0·32	161
Burnley	96,478	32·2	21·48	1295	2·46	0·37	0·53	0·30	0·18	0·28	0·80	170
Blackburn	125,797	28·8	20·09	1211	1·60	0·10	0·07	0·14	0·33	0·26	0·70	169
Preston	111,425	32·1	22·88	1379	2 61	0·33	0·11	0·07	0·41	0·26	1·42	217
Huddersfield	98,511	20·2	18·37	1107	1·45	0·13	0·23	0·22	0·55	0·12	0·20	160
Halifax	92,861	23·1	18·35	1106	0·87	0·36	0·03	0·13	0·21	0·06	0·04	135
Bradford	223,985	26·7	19·46	1173	1·76	0·51	0·32	0·08	0·30	0·13	0·30	145
Leeds	388,761	32·2	19·80	1193	2·00	0·75	0·13	0·19	0·34	0·13	0·45	155
Sheffield	338 316	33·4	19·76	1191	2·27	0·49	0·12	0·20	0 71	0·19	0·56	157
Hull	212,679	32·4	18·23	1099	1·76	0·43	0·18	0·14	0·38	0·19	0·43	142
Sunderland	136,101	35·1	21·80	1314	3·06	0·85	0·18	0·07	0·52	0·60	0·84	167
Gateshead	93,372	34·2	18·97	1143	2·35	1·00	0·06	0·23	0·33	0·25	0·47	152
Newcastle	201,947	31·0	19·92	1201	2·16	0·48	0·14	0·16	0·76	0·13	0·49	157